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Transactions

OF

The Insurance Society of Edinburgh

VOLUME V.

SESSION 1907-1908

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HENRY BROWN, Esq.
PRESIDENT
THE INSURANCE SOCIETY OF EDINBURGH
1906-1908

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TRANSACTIONS

OF

THE INSURANCE SOCIETY OF EDINBURGH

1907-1908.

EDINBURGH
H. & J. PILLANS & WILSON, 86 HANOVER STREET

LONDON
C. & E. LAYTON, 56 FARRINGDON STREET, E.C.

1909

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For all statements made and opinions expressed in the Addresses and Papers in this Volume, the respective writers are alone responsible.

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SESSION 1907-1908.

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Annual Report—Session 1907-8.

THE Council have pleasure in submitting the sixth Annual Report of the Society.

MEMBERSHIP.

Since the last Report 15 new members and 20 new associates have been elected, while 9 members and 16 associates have resigned and 3 members have died during the year, leaving the membership at the close of the session, 211 members and 43 associates, representing 54 offices.

The Council have to record with very great regret, the death of Mr Matthew P. Taylor, one of the Auditors of the Society. On succeeding his brother, Mr Robert Taylor, as the Edinburgh Secretary of the "Liverpool, London, and Globe" he threw himself heartily into the work of the Society in many ways, and conducted a class in connection with the Federation Examinations for some weeks prior to his death.

To fill the vacancy caused by the death of Mr Taylor, the Council elected Mr J. Wilson, C.A., as an Auditor for the present session.

The Council received with regret the resignation of Mr Arthur Worley, owing to his removal from Edinburgh, and his place on the Council was filled by the election of Mr John Davidson.

SESSIONAL MEETINGS.

During the session seven meetings have been held as per the following Syllabus:—

1907.

October 22.—"Electrical Installations."
(Inspections and Application of Rules.)
By A. Lester Taylor, Esq., M.I.E.E., Liverpool.

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November 19.—(*a*) "The Valparaiso Earthquake." Personal Experiences. (*Communicated.*) By Mr J. J. LAMONT, Valparaiso.

(*b*) "Notes on Shop Risks." By Mr E. F. NEWLANDS

December 17.—"The Claims Department of a Life Office." * By Mr G. W. RICHMOND, F.I.A.

1908.

January 21.—"Remarks on Micro-Organisms." By DR EMIL WESTERGAARD.

February 18.—"Some of the Difficulties of an Assurance Medical Officer." By G. LOVELL GULLAND, Esq., M.D., F.R.C.P.E.

March 24.—"Valuations under the Employers' Liability Insurance Companies Act, 1907." * By Mr R. M. M. RODDICK, M.A., F.F.A.

April 14.—ANNUAL GENERAL MEETING.
CLOSING ADDRESS—"Past and Present." By The PRESIDENT.

* These subjects have been allotted to the Society by the Federation of Insurance Institutes of Great Britain and Ireland, with a view to the Papers appearing in Vol. XI. of the Journal.

The Council desire again to express their great appreciation of the kindness of the Faculty of Actuaries in permitting the Society to hold its meetings in the Faculty Hall, free of charge.

TRANSACTIONS OF THE SOCIETY.

The following statistics regarding the sale of copies of the Journal will be of interest:—

Volume	Number of Copies disposed of to				Number still in stock
	Members	Associates	Offices and Non-Members	Total	
I.	70	17	125	212	36
II.	48	4	72	124	124
III.	12	1	91	104	169
IV.	13	Nil	1	14	283

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The Council have arranged for the printing of the Papers read during the session to form Volume V. of the Transactions of the Society, and Mr James A. Thomson, F.F.A., who kindly undertook the editing of Volume IV. has been good enough to continue his good offices in the editorial work.

FEDERATION EXAMINATIONS.

The Society was represented at the Federation Examinations in April 1907 by 16 candidates passing in 56 subjects as follows :—

Part 1.—Fire Branch	39	Passes (11 with Honours.)
Part 2. do.	15	do. (11 do.)
Part 3.—Accident Branch	1	Pass
Part 2.—Life Branch	1	do. (with Honours)
	56	23 Honours.

The record achievement of Mr Alan Fisher of the "Century," one of the Society's students, is deserving of special notice. Mr Fisher sat for examination in 9 subjects of Parts 1 and 2 of the Fire Branch, passing in all 9, and taking Honours in 8 of the subjects. He also submitted Certificates in 3 subjects of Part 1, in which the Federation does not examine.

For the 1908 Examinations 28 candidates from the Society have entered, under the following classification :—

Part 1.—Fire Branch	12
Parts 1 and 2. do.	8
Part 2. do.	2
Parts 2 and 3. do.	1
Part 3. do.	2
Part 1.—Accident Branch	3
	28

Classes have been held during the winter as follows :—

FIRE BRANCH.

Policy Drafting and Endorsements.
Bleach Dye and Print Works.
Shipbuilding and Metal Working.
Mr COLIN SYMINGTON.

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Knowledge of Tariffs.
Bleach Dye and Print Works.
Cement Works.
Shipbuilders, England and Wales, and Metal Workers, Northern Counties, England.
Mr CHAS. J. SOUTER.

Processes and Fire Hazards.
Bleach Dye and Textile Printing.
Marine Engineering and Shipbuilding.
Mr CHAS. J. SOUTER.

Re-insurances. General Rules.
Mr COLIN SYMINGTON.

Fire Correspondence.
Mr GEORGE TURNBULL.

Plan Drawing to Scale.
Mr JAMES B. ADAM.

The thanks of the Society are due to these gentlemen for having gratuitously devoted so much time and trouble to the interests of the juniors of the profession, and thanks are also due to Mr William Watson who undertook to conduct one of the classes but was compelled to give it up after a few meetings owing to his removal from Edinburgh.

The Council also gratefully acknowledge the kindness of the Caledonian Insurance Company in placing their office at the disposal of the Society for the holding of the Federation Examinations last spring, and also of the Alliance, Century, Commercial Union, and Royal Exchange Offices for like facilities in connection with the classes meeting during the past winter.

EDINBURGH,
13*th April* 1908.

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Treasurer's Statement—Session 1907-1908.

INCOME.

Balance from last Session—			
Cash in Bank	£41 10 8		
,, in Hand	0 3 0		
,, *pro* C. & E. Layton	1 1 4		
		£42 15 0	
Subscriptions:— Arrears		1 5 0	
,, In advance		0 5 0	
,, Session 1907-1908—			
196 Annual Members at 5s.	£49 0 0		
43 Associates at 2s. 6d.	5 7 6		
15 Life	nil		
254	£54 7 6		
35 Outstanding—28 Members, 7 Associates	7 17 6		
219		46 10 0	
"Transactions" Vol. I. 20 vols.	£4 17 6		
Vol. II. 18 ,,	2 12 0		
Vol. III. 38 ,,	5 1 0		
Vol. IV. 20 ,,	2 0 0		
		14 10 6	
Federation Journals sold		9 16 0	
,, Indices		0 6 0	
Class Fees collected		6 5 0	
		£121 12 6	

EXPENDITURE.

Federation Levy		£6 0 0
Do. Journal accounts		9 17 9
,, ,, for Library		0 7 0
Do. Secretary's expenses attending Conference		3 11 6
Book Case for Library		0 15 0
Printing and Stationery		8 16 10
Clerical Assistance for Secretary	£3 2 3	
Do. Treasurer	0 5 0	
		3 7 3
Postages		5 10 8
Class Fees refunded		4 0 0
Examination Expenses		1 5 0
Sessional Meeting Expenses		2 2 0
Sundries		0 1 6
Deficit on Dinner		7 6 0
Balance:—		
Cash in Bank	£28 13 11	
Cash in Hand	39 18 1	
		68 12 0
		£121 12 6

Edinburgh, 22nd January 1909.—We have examined the Books recording the Cash Intromissions of the Treasurer of the Insurance Society of Edinburgh for Session 1907-8 of which the foregoing is an Abstract. The Accounts close with a balance in favour of the Society of Sixty-eight pounds, twelve shillings, sterling (£68, 12s.), being cash in hand and in bank. In addition to this balance some value is represented by Federation Journals on hand and subscriptions outstanding. On the other hand there have been produced to us outstanding accounts due by the Society applicable to Session 1907-8 amounting to £62, 12s. 8d.

Subject to these remarks we beg to report that we have found the Accounts to be correctly stated and sufficiently vouched.

JOHN WILSON, C.A.,
EDWARD F. NEWLANDS, } *Auditors.*

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ADDRESSES AND PAPERS READ BEFORE THE SOCIETY.

SESSION 1907-1908.

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I.

ELECTRICAL INSTALLATION INSPECTIONS AND THE APPLICATION OF RULES,

BY

A. LESTER TAYLOR,
M.I.E.E., Liverpool.

——o——

IT was with considerable diffidence that I accepted the invitation of my friend, Mr M. P. Taylor, to give an address in Edinburgh, a city so noted as a seat of profound learning, but I shall hope that a simple statement based on my experience as an Engineer engaged in Insurance work will not be without practical value even here.

Perhaps the most useful way of dealing with the subject will be to review the Rules first and their application in Fire Surveys later. We have this year reached a stage in the matter of Rules which marks a very material advance on anything that has gone before. With only three important exceptions, all the British Fire Offices have now officially agreed to recognise one set of Rules; and of the three exceptions, one (North British and Mercantile) does recognise them in practice, but informally; and another (Norwich Union) accepts them in part. The third exception is that of the Phoenix, and therefore peculiarly regrettable, because the support of an office which has such a past history of unique and admirable work in the production of Rules for the reduction of Electrical Fire Risk,

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including so much difficult and costly pioneer work, is particularly desirable at this juncture, when we are so very near to complete uniformity and to a single standard set of Rules for ordinary installation work. Last week, when inspecting at a Lancashire cotton mill, the Insured called in the contractor to meet me, and upon my saying that some alterations were needed, as the Rules had not been followed, this contractor inquired, "What Rules? I have eighty different books of Rules in my office now." He is a contractor of good reputation, and his reasonable complaint is as to the number of different Rules existing, at least in the past. The very large number of issues of different Fire Office Rules in the past has been accompanied by several issues of Wiring Rules by the Institution of Electrical Engineers, the latest of which forms the Rules which have been found so generally acceptable by the Fire Offices, and to which I shall refer, and at length, presently.

Supply Rules.

There are also a large number of Rules issued by the various electricity supply authorities, and so limited in their application to the respective supply areas. These have had a marked effect in locally standardising installation wiring details, because to a greater or less extent they have been applied by the supply engineers in a practical manner, and reasonable compliance has been insisted upon prior to supply being given. This year a large number of these authorities have already formally adopted the new Standard Set of Rules, also recognised by nearly all the Fire Offices. The London County Council issue special Rules for theatres, and some other local authorities also exercise control (if only by saying that "Installations must be to the satisfaction of the City Electrical Engineer") over these installations in the interests of the public, and incidentally improve the Fire Risk. It is possible that all supply authorities desiring it will soon have powers granted to them by the Board of Trade to legally refuse to join up installations which do not conform to the new Standard Rules, or to a suitable selection from them.

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Board of Trade Regulations.

Other regulations of large importance have been issued from time to time in the past by the Board of Trade, which has also, through the Electric Lighting Acts, done very much to protect the public and increase the safety of electricity supply and of electrical tramways and railways. In particular, the work of the Board of Trade has been of great value to Fire Offices in defining the responsibility of electricity supply authorities under the Electric Lighting Acts, so that these authorities are held responsible at law, without proof of specific negligence, for damage arising from their mains or other "works." In connection with the great extension in electric traction and electricity distribution with bare overhead wires, the Board of Trade regulations are most stringent in respect to the prevention of contact between telegraph and telephone wires and these overhead wires. (Protecting devices should be seen to be fitted at the point of entry of outside lines into the buildings where there are bare power and lighting wires and telephone wires in or about a risk.)

Home Office Rules.

The Home Office has applied stringent regulations in respect to electricity in mines, and these Rules have served as a standard for electrical work in other dangerous risks in which Fire Offices are more particularly interested. This year again the Home Office has issued draft Rules (intended to be made compulsory under the Factory Acts early next year) applicable to all Installations in factories and in workshops where the pressures used exceed 130 volts continuous or 60 volts alternating. These Rules when applied must prove of vast importance to Fire Offices in their effect upon installation details and maintenance, notwithstanding that their main object is the protection of the person against shock. There is a natural tendency for the most stringent or the most stringently applied rules to be the standard for the contractor to save trouble. Rules to be applied by Factory Inspectors will have the Factory Act behind them, and so become very important to factory owners.

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Fire Offices' Committee Rules.

Of definite and immediate importance to the Surveyor are the Fire Offices' Committee Special Rules, imposing extra rating for motor and for arc lamp installations in certain special risks where the Rules are found not to be strictly complied with. The Fire Offices' Committee also issue special Rules in respect to electrical automatic fire alarms, a certificate as to compliance with these and as to proper arrangements for maintenance on the part of the installers being a compulsory precedent to the allowance of a discount for these alarms.

The Fire Offices' Committee Motor Rules in their first issue were urgently necessary, because of the commencement of the use of motors in textile risks. The normal type of motor was then a very open type, very unsuitable for use in these risks. The Institution of Electrical Engineers' Rules then followed this lead, and required an enclosed type of motor to be used in such circumstances. On the later introduction of induction motors the Fire Offices' Committee again led the way by relaxing the Rules for these because of their lesser danger. Now the Institution of Electrical Engineers' Rules have this year laid down a standard for motors in special risks, which, as a standard, does differ a little from the Fire Offices' Committee Rules (which have not been revised for some time), and perhaps on that account the latest Institution of Electrical Engineers' Rules at the moment may now define all the precautions that are necessary, and if the Fire Offices' Committee should endorse that opinion, we should get a step nearer to uniformity of standard and less friction in application, if the tariff extra were to be based on the departures from the *new* standard.

It will thus be seen that there is no lack of Rules with which to compare the actual details of any installation to be inspected.

Ordinary Fire Office Rules are in practice not retrospective, and necessarily so, as an Insured could not in 1890 be expected to know and prepare for what might be required in 1900, and the progressive changes in Rules defining improved practice as greater experience and wider

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uses occur cannot commercially be applied to older installations reasonably complying with the best standards of the date of their erection.

The mere diversity in titles alone of these many compilations of Rules points to the desirability of uniformity and standardisation, and it is only this year, as I have said, that practical attainment has been so nearly reached in respect to a single set of Standard Rules for general use in ordinary installation practice. The Council of the Institution of Electrical Engineers has for some years been making a serious effort in the common interests of the Electrical Industries to secure such a concurrence of all the interests involved. They have formed a standing Committee on Wiring Rules, and have arranged for direct representation on that Committee of outside bodies such as the Municipal Electrical Association and the Electrical Contractors' Association, as well as for including eminent Consulting Engineers, and representatives of leading Fire Offices. The latest addition to the Committee is Colonel Holden of the War Office. In addition, the Committee have been assisted by the Cable Makers' Association and by the Engineering Standards Committee. This Engineering Standards Committee itself includes representatives of British Government Departments, such as the War Office, the Admiralty, the Board of Trade, the Home Office, and the Crown Agents for the Colonies, as well as of the Electrical Manufacturers' Association and Fire Offices. It is supported by the Institution of Civil Engineers, the Institution of Mechanical Engineers, the Institution of Naval Architects, the Iron and Steel Institute, and the Institution of Electrical Engineers, all of whom take a direct interest in the work done.

The interests which have had a voice in the 1907 Institution of Electrical Engineers' Rules are thus seen to have been very wide, tending to secure equally wide acceptance of the standards set up by the Rules, all to the benefit of wiring practice, and incidentally and necessarily to the benefit of the Fire Offices. How willing the Wiring Rules Committee have been to consider Fire Office interests is shown in the very beginning of the Rules, where it is laid down that "notice of the introduction of wiring should

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"in all cases be given to the Fire Offices insuring the risk "and their suggestions respecting any details not covered "by these Rules, or any deviations arising from special "conditions, should be adopted."

I have dealt at some length with the origin and present acceptance of these new Rules because they mark a departure, not yet quite complete, unfortunately, but still a most valuable departure in the direction of uniformity of standard, coupled with wide and authoritative acceptance. It is not necessary to say to Insurance men what a substantial reduction in inspection difficulties such a single standard means, less difficulty in applying the standard and in securing the acquiescence of both the Insured and the contractor. These new Rules have formed a basis for the new Home Office Rules, and, as I have mentioned, are likely to have further official application as Electricity Supply Rules. What my principals have done in respect to the new Standard Rules has been to reprint them *verbatim* with a special introduction indicating the principal sources of electrically-caused losses in the past and with Notes to a number of the Rules, intended for the use of their Surveyors and others.

Now what is the attitude we should take in the application of Rules in making our inspections? Rules are intended to provide not only against Fire Risk, but also against danger to the person and against troublesome breakdowns which interfere with the use of the current. Whilst as a Fire Office pure and simple we are not interested in risks of shock or other personal danger, it is sometimes an assistance to get needed alterations when the personal danger can be pointed out. At a public exhibition a cinematograph operator could not be moved to protect his cabinet properly, but an appeal to the City Surveyor brought an authoritative veto on the show pending proper alterations. On the other hand at a small provincial hall another cinematograph proprietor had come straight from London and yet had materially defective arrangements. Upon reminding him how differently the London County Council had required him to arrange his apparatus where he had last been, he agreed that was so, but said that as he was now out of their control he had no intention of

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complying; and finding the hall manager on his side, we had to accept the temporary increase of risk or jeopardise the business. Electrical properties of travelling artistes are often found to be in a shocking condition on arriving at Music Halls. In one instance the theatre electrician absolutely refused to connect up the show, and the artiste, breathing vengeance and all sorts of legal penalties for breach of agreement, moved to the local promenade pier pavilion, where he showed without accident for two nights, but on the third caused an unmistakeable fire. After this demonstration, he abandoned his threatened action against our Insured, the music hall proprietor.

I still find Fire Surveyors diffident in respect to Electrical Inspections, although others who have had only a little tuition, providing that little deals with essentials, soon make a satisfactory estimate of the Fire Risk in all ordinary cases, so much so that my office books show a marked decrease of visits to out-districts notwithstanding large increases in installations, because the work, very properly, can so largely be done without specialist assistance. I would strongly advise junior Surveyors especially to take up the subject with seriousness, as Electrical Installations are becoming so general that ability to estimate Electrical Risk will materially influence a Surveyor's prospects. I have already found it to do so and to lead to substantial advance in position and also to opportunities in the foreign field.

As we are not capable of judging anything except by comparison, let us first take our standard and see what it is and how we can use it. To commence with, we find a special introduction in the Rules issued by my principals of considerable importance to the Surveyor. For instance, they say:—

"Whilst in no ordinary risk requiring more than is specified in the Institute Rules, given reasonable suitability of selection as amongst the permitted methods, they find that, say, in respect to isolated Installations, less restricted methods have proved sufficiently secure in practice to permit of their mention in the form of Notes following the several Institute Rules, in which form, sundry suggestions and comments are also embodied for the information of the Company's clients, and Survey Staffs.

"In Special Risks the set conditions permit of specific recommendation arising out of experience under the peculiar conditions existing, and recommendations as to these if not found herein may be obtained on request.

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"New commercial applications of the Electric current (or applications newly used on a commercial scale) which may necessitate the special installation of plant and accessories upon lines differing from the requirements of these Rules, will be dealt with in a friendly and liberal spirit.

"The commercial interests of a Fire Office as such are confined to matters involving Fire Risk only. Their interests are not affected by matters solely involving Risk to the Person or Risk of Breakdowns, and whilst this Company strongly recommends attention to the means for preventing these latter risks they have no power to insist upon such attention against the wish of the Insured.

"Progressive Changes in Rules.—This Company in all ordinary cases applies as a standard, only those Rules which were in force at the date when the Installation was fitted and in such cases does not require serious alterations which might be necessary to bring the work up to the standard of later Rules not available to the Contractor when the Installation was fitted.

"Rules are deemed to be 'in force' when the Contractor could obtain a copy upon formal application to the Company.

"The first copies of each fresh issue are sent to the Technical Press for notice and should in this manner come prominently to the notice of contractors and others, but before commencing any important work specified to be carried out in accordance with the Rules of this Company, engineers are invited to obtain from the Company's Head Office a free copy of the latest Rules in force.

"The principal sources of Fire loss have been found to be :—

1. Leakage of Current from metallic armouring or from metal conduits to gas pipes (the gas pipes being thereby melted and the issuing gas ignited).
2. Leakage of Current to earth, *via* gas pipes, either from charged structural metalwork or from the gas pipes being wrongly used as an 'earthing' connection and failing, especially at the pipe joints, in conductivity.
3. Fusible Cut-outs without proper covers to retain the highly-heated fused metal, and the replacing of fuses situated over combustibles whilst the current is 'on.'
4. Resistance coils not sufficiently isolated from combustible materials.
5. Loose or otherwise imperfect connections, especially at switch-boards.
6. Arc Lamps with broken globes.
7. Sparks from unenclosed and badly placed Motors and Dynamos.
8. Unguarded Incandescent Lamps arranged in contact with flimsy goods in show windows.
9. Want of spacing apart of unenclosed conductors from each other.
10. Straying currents of dangerously high potential, through accidental contacts, as between Telephone Wires and Trolley Wires.

"No Installation can be accepted in which it is found that all these are not reasonably provided against."

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Of course the Fire Offices' Committee Rules must be taken in strict detail and the installation compared item by item. But first look at the installation broadly—Tariff or not—from this simple standpoint. What will a breakdown or failure do here? (I think you will agree that there is a marked tendency for attention to Tariff close detail to lead to the overlooking of wider issues unless *both* are comprehended in a survey.) Now, having the Standard Rules in our minds, or at any rate in our hands, and having the Fire Offices' Committee Rules which may be applicable, we will call on our Insured and ask permission to make the actual inspection and under the guidance of the works' electrician or his substitute.

Before doing anything further we want to make several verbal inquiries.

What do they use Electricity for?

Is it for lighting by Incandescent Lamps? Lighting by Arc Lamps? Power purposes? Ventilation? Heating appliances? Cooking appliances? Knock-off motions? Automatic tea weighing? Vacuum cleaners? Portable Accumulator charging? Piano players?

Where is the current obtained from?

Has there been an increase in the pressure of supply? (For instance, was the installation fitted for a 100 volts supply and this supply subsequently changed to 200 volts—if so, see if these special Rules are carried out.) Is gas lighting or gas heating used?

As we cannot see the whole installation at a glance, we want to know something of the *scale* it is on to know what to look for in the earliest main and sub-main accessories.

How long has the installation been in?

Remember progressive changes in Rules, but do not apply principle too seriously. If recent, ask what Rules were specified to be followed.

Who fitted the installation?

A good name gives confidence; another name indicates hire purchase; another name indicates pure hiring with maintenance; another indicates an excessively "cheap and nasty" firm, also carrying with this indication some severe cutting or even moral hazard on the part of the Insured. Some grasping Insured beat down Contractors and expect

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Fire Office Inspection (because of clause in contract) to pull the chestnuts out of the fire for the Insured. On the other hand too many *good* contractors under the present stress of business competition are so closely occupied in tendering and securing business that the work when obtained may perhaps be visited as to preliminary main features, but is not visited often enough to get adequate supervision by principals.

Whilst waiting at office or lodge, leisure will sadly too often give opportunity for prolonged examination of such wiring—conduit or casing—and fittings as may be in sight, which also will indicate by finish what we are to expect in the rest.

Characteristics of the different Installations.—Arc lamps are simple in wiring detail, but need close attention to Arcs, resistances, and fuses. *Motors* also have simple wiring, but resistances and fuses again are the prominent danger points. *Incandescent* lamps have multiple wiring, but simple accessories—look for main and branch control, clearance from gas pipe and so on, as per Rules. Remember that Incandescent Electric lighting ordinarily brings reduced hazard, as compared with gas lighting.

Having been told what we are going to see and having in our mind the expected characteristics, ask to be taken to the generating plant, or the electricity supply authority's service line, and from there to sub-main points, and from there to smaller dis-points, on the way looking at all accessible wiring and accessories. Compare these with standards and make notes of departures, and, with actual departure before you, how it can best be remedied in the particular circumstances.

Don't expect too much from every inspection until experience brings a sounder basis for judgment.

22*nd October* 1907.

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II.

THE VALPARAISO EARTHQUAKE: SOME PERSONAL EXPERIENCES,

BY

J. J. LAMONT,

London and Lancashire Fire Insurance Company, Valparaiso.

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THOSE of you who have invaded the realm of the occult, and patiently sifted the lore of a subject so peculiarly entrancing and elusive, will doubtless have formed more or less mature opinions as to whether or not an "astral body" really exists. At times one is almost inclined to think it may, and that in consequence, allied to the corporeal envelope, yet independent of it, there is an ethereal entity which can pass impalpably whithersoever it listeth—seeing, yet unseen; hearing, although unheard; and touching, but unfelt. Perhaps, therefore, in these very moments my incorporeal self apprehends anew the confines of the well-known hall, and takes cognisance of its occupants; whilst the members listen to a mere handful of personal experiences culled in a little-known land, whose destinies Romance considers as swayed by its stellar symbol, the "Lone Star," and whose shores sense the stately sweep or tumultuous "temporales" of the mighty Pacific.

"Chile?—what of Chile?" Had this question been put to the average "man in the street" at the dawn of August 1906 his comment would probably have been nebulous. "Only one of these troubled South American Republics; one need not trouble about it. Leave them to

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their wrangles, and let their wire-pulling presidents imagine themselves petty potentates." . . . But now matters have assumed a somewhat altered aspect. A great misfortune has befallen Chile, and caused the Republic to loom large for a while in the eyes of that great world beyond the Cordillera and the ocean. Something of the veil formerly surrounding it has been drawn aside; and, amidst a general outpouring of sympathy, distant communities have had opportunity to dissipate the haziness of former impressions. Centuries ago an intrepid navigator dropped anchor in what is now Valparaiso Bay. Before him spread a series of steep hills, clothed in a soft green mantle. A glamour crept over his being: he saw himself once more in his native Spanish village; and, as if to perpetuate the name of that far-off spot, his sonorous sea-voice pronounced the dictum: "This I christen Valparaiso." Such old-world name still holds good; but, at times, many a prosaic foreigner has had leanings to the term, "Hill of Hades," instead of "Vale of Paradise." The settlement, once inaugurated, emulated our friend "Topsy" of the story-book, "it growed"; and, considering the city when 1906 was still young, one observes a flourishing port, the hunting-ground (more or less happy) of a cosmopolite population, numbering about 200,000, among whom—strangely enough, having regard to its distinctive name—"Celestials" are few and far between. The elect of the "imported element" are the British and their trade rivals, the "Mahlzeits of the Vaterland." Naturally, the *genus* Scot is well represented—but, in truth, where is he not? A vista of the city shows the business portion situated on the flat—mainly on ground reclaimed from the Pacific—and the surrounding hills thickly studded by a horde of diversified edifices. The main types of building construction prove themselves—

(*a*) Tabiques, consisting of mud bricks, supported between timber uprights and cross-pieces, with an outer covering of finely-undulated corrugated iron, or of plaster;

(*b*) Adobes, consisting of mud blocks; and

(*c*) Brick, larger than the British standard, and much softer.

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All these are used, singly and/or in combination; while, naturally, wood also forms the exterior walls in parts, either as simple boarding or mud-plastered lathing. The roofs are mainly of iron and tiles. There is a fair water supply, but the fire service is purely "volunteer."

Such was the city on which dawn broke on Thursday, the 16th August 1906, and where, in the working hours, the great heart of business throbbed rhythmically as of yore. No being apprehended the Doom-spirit overshadowing the spot, and to none was the menace of his wing-beats perceptible. One of Valparaiso's streets, the Calle Blanco, contains a pension-restaurant, managed by a typical *hausfrau*, the Senora Dietert, whose world lies within the four walls of a massive four-storey building. There is a large dining-salon on the first floor, and a smaller, cosier, one on the storey above, both of these, with their little, well-arranged tables, presenting an aspect of comfort and good cheer. One corner of the upper room is peculiar to the writer and a fellow-Edinburgh-exile—a union, by the way, of Insurance and Banking. The hour is about 7.56 p.m. Coffee is over, and common curiosity is prompting a scrutiny of our evening paper, *La Tarde*, the while that the glow from a cluster of overhead lights wakens reflections in the untasted *pousse-cafés*. A murmur of subdued conversation arrests the ear. Further down the room cigar smoke rises ceiling-wards in whimsical eddies. It is the psychological moment! . . . A faint, trembling sensation strikes the apprehension—an uncanny vibration of inanimate things. Everyone knows the signification—old and new-comers alike—for a *temblor* of the preceding May had initiated the latter. "Mother Earth is troubled," is the gist of the general thought; "her bosom heaves, but it will be merely a trifle, and we shall not move." But such conclusion is unhappily conceived, for, like the pealing swell of a grand crescendo, the eerie motion gains in intensity, and at once the icy grasp of a nameless dread encircles every heart. All are electrified into sudden activity; but, ere the last inmate gains the threshold of the chamber, the lights fail, and, in cimmerian darkness, a terrified group gropes and staggers under the fell influence of that weird movement. Are we destined to partake in a grisly *Danse*

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Macabre? The first-stair flight is negotiated, and the main landing attained. The air seems tense, suffocating, and full of strange sounds. Suddenly the feeble flicker of a solitary match, held in someone's shaking fingers, rends the obscurity in wan and ghostly fashion, revealing a scene which, done into colours by a Wiertz, might well aspire to rank among the minor masterpieces of that ill-starred disciple of the Bizarre. Still the great building sways as a thing possessed, and forms a strange setting for that pitiful concourse on the landing. There is the *haus-frau*, agonised and helpless, trembling in the arms of her son, while round her are the palsied forms of the restaurant women-folk, the men-servants crouching behind. The match gives a last expiring flicker, and dies. The scene vanishes: darkness reigns again, and only the sounds linger. We pass to the remaining staircase, and I grimly clutch the hand-rail for support, the while that a rain of plaster and glass makes merry in its boisterous descent. Methinks I am once more negotiating the deck-stairs of the R.M.S. "Oropesa" in a "Vanderdecken" gale off Cape Pillar! But at last the lowest doorway is reached, and the welcome open attained. The earth's motion has now almost ceased, and all is gloom without. A tangle of telephone wires partially obstructs the sidewalk, and a few lie athwart the tramway trolley lines; but the absence of sparking proves that the current-producing plant is, luckily, inoperative. We can barely discern some debris along the street to our right; but nothing has been dislodged from the exterior of the restaurant or from the great five-storey Royal Hotel block opposite, and we bless the fact that there are apparently *some* rock foundations in Calle Blanco. My friend and I hail, each thankful to know that the other is so far safe. The silent handshake which follows speaks with striking eloquence in such a crisis. Instinct prompts retreat to the *real* open—to any place where one can avoid proximity to these insensate masses of brick, so cruel in their very helplessness. Such a spot fortunately presents itself at almost a stone's throw. It is the Plazuela de los Bomberos ("Firemen's Square"), and we hurry to its broad, welcome expanse. Here a latent thought springs into being. What of the fires that are sure to result, and may

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cause Valparaiso to emulate San Francisco in lesser degree? Well, we have the Earthquake Clause . . . true, but this is Chile, with all the vagaries which characterise its law courts. Already the Plazuela is a mass of bewildered humanity, obsessed by a common horror. The scurrying forms display all manner of attire; some are hatless or bootless, others in the lightest of evening-wear, and a few in hastily-contrived *déshabille*. The ground is muddy under foot, with great puddles here and there. My companion and I are hatless and without overcoats, but each finds that a tight grasp has been maintained on our respective serviettes. These are hastily utilised as head-gear, and we proceed "turbaned." The West has copied the East! But, alas! once again the sickening motion commences. The solid earth undulates, as though all the wicked genii beneath had roused the fierce powers of Nature in a frenzied orgie. Only with difficulty can we remain upright; volition itself feels numbed. At last, however, the tremors cease. We remain motionless for a space, and then—as if the Law of Selection operates unerringly even in earthquakes—we merge in a coterie of young German womanhood, who, with their mother, are shivering and gesticulating. That gentlewoman, in a state perilously near hysteria, monotonously intones, "El mar, el mar" ("The sea, the sea"), and we endeavour to calm her somewhat, knowing that she fears a tidal wave. . . . Her daughters are becoming tranquil at last, and, fortunately, with the early advent of the husband, the mother forgets some of her immediate terror.

That which I feared, and expected, then happens. From the rear of an adjacent block the air is greedily licked by a sinuous tongue of flame; and this, followed by a dull glow in a chemical store behind us, testifies to the liberation of the Fire Fiend. Soon, even a cursory glance perceives ominous flame-points in other parts of the poor, stricken, city. So commences the holocaust. The familiar wonted clangour of the firebells is lacking—and small wonder! I hasten across to the Station of the No. XI Fire Company, which is the British organisation. Outside its door is a hose-tender, attended solely by a tall figure, whom I recognise as an English-speaking Chilian of my acquaint-

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ance. After exchanging greetings, he casually remarks: "Feel my head." I put up my hand, and suddenly remove it, with the palm entirely wet, and of a dark, crimson, colour—evidence of fallen plaster, and an abraded scalp. A few moments later finds us at the entrance to the broad Avenida del Brazil, whose sides are flanked by massive warehouses and dwellings—comparatively recently built, but reared, however, on treacherous soil won from the ocean. It is traversed by a surging mass of humanity, among which all classes, still in the first dread stages of inquietude, raise a babel of sound; while wild eyes gaze on the ruin, rampant on every side. Ever and anon, above the other cries, the ear discerns "Santos, Santos—Salvador, Salvador," (Saints, Saints—Saviour, Saviour). And many hands make the sign of the cross. . . .

In the contemplation of this kaleidoscopic scene, time passes quickly, and the muddy ground has already played havoc with our light footwear. An ornamental garden, surrounded by a wooden fencing, is at hand; and, seating ourselves on the handrail with a modicum of comfort, we stretch out our feet to a low building burning about fifty yards away: a sadly novel, but quite effective, foot-warmer. Midnight is almost at hand, and the fires are multiplying. Some bomberos (firemen) are in evidence, but they can do little, as the mains are inoperative. A small black-bodied steamer of the German company is drawing from a sewer at a near-by corner; but the fierce throbbing of its cylinders and the ever recurring hiss of the safety-valve—signifying, as it were, a noisy ebullition of energy—find no apparent affinity in the demeanour of its tall bearded attendant, who plys his task with absolute stoicism. A bulging feed-pipe leads to a large warehouse block, already well alight. There, two dark figures manipulate the nozzle, and closer inspection reveals them as members of the British Company. The slender stream, however, is of little avail: the flames enwrap and dissipate it to nothingness. One huge double four-storey Bodega, barely a stone's-throw distant, is alight from basement to attic, forming a seething sea of uncontrolled flame, from which billows of sparks leap high in the air, as the work of destruction proceeds apace.

At this juncture, however, personal matters begin to

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loom on the thought-plane. What of our rooms? How has the house fared—is it still erect—has it collapsed—or, worse still, has it also been consumed? To decide, we hurriedly traverse the sorry debris-strewn streets, and laboriously ascend the hill (Cerro Concepcion) to the Calle Papudo, where, after sundry handshakes, we find that the tabique dwelling, with the exception of one or two dismantled walls, is still intact. A hurried glance round our rooms by candle-light reveals much disorder—not *our* causing please, but that of the *terremoto*—and minor casualties; although, strange to relate, a Pathé phonograph and records, standing on a chest of drawers, have not been dislodged. Something of ours, however, comprised in the familiar term "Household Goods, full clause, etc," was left in the restaurant during that hurried exodus, so a hasty passage to the level below brings us once again to the well-known building—now wan, silent, and deserted. The overcoats still hang where we left them, but my umbrella has disappeared, thus, even when the earth's crust quivers, living up to that sinister reputation possessed by its class in all parts of the world. Active vociferation by the "inner man" then leads us to the dining-room, where we "commandeer" what edibles, innocent of wrappings, can be conveniently conveyed in pockets. A few moments after we descend the staircase, with, perhaps, the enhanced dignity and self-possession which the opportunity of a slow and deliberate motion imparts. Once more attaining the higher ground, we glance over the city from a terrace—part of which has fallen entirely away. Valparaiso is an inferno of ruins, flame, and smoke. Still, softened by distance, rise the rhythmical cylinder-beats of that faithful fire-engine, ever at its corner. Animated objects—mere pygmies, so far off are they—continue, with its aid, the impotent struggle. The remainder of that awful night we pass in chairs, placed on the indifferent level of the cobbled Calle Papudo: units of a small community, which, heart-sore and weary, is continually roused to feverish activity by the constantly succeeding minor earthquakes.

At last the welcome dawn breaks. Among grey shadows, indoors, we perform perfunctory ablutions, and assume other garments, while, ever and anon, the phonograph-

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trumpet glistens in pale fashion as the growing light strikes its surface. Then, doubtless logically, we think: "Why not cheer ourselves, and those outside, by a little music, homœopathically administered?" I say "music" advisedly, inasmuch as a "Pathé No. 1" does not emulate the rasping sound-medlies evolved by certain instruments of its class. Soon, therefore, the silence is riven by "Lauderian" strains, by songs from Kirkby Lunn, Mary Boyer, Ben Davies, Watkin Mills, and Caruso; and, indeed, as the liquid notes of the great Italian tenor die away in a haunting melody from "Tosca," we feel that the first extremities of our position pass and finally fade. Yes, the night of gloom is no more: that period when all the poignancy of the disaster weighed most heavily. To select a suitable open space on which to "camp" now demands attention, as the house does not inspire implicit confidence. A likely situation presents itself in a large garden farther up the hill; and, by means of wearing appeal thrown down, we boldly stake our claim to a small plot. The garden is itself filling up with fellow-refugees, and every open public space on the hill seems a medley of residents, who squat dejectedly among bedding, and other household "gods." Truly the beginning of an enforced "Simple Life!" A walk through the business streets is disquieting enough, as all mutely speak of debris, incertitude, and troubled humanity. Already Captain Gomez Carreño, of the Chilian Navy (and a protégé of that of Great Britain) has assumed active control in the maintenance of law and order, and some thieves have paid the last penalty. We are destined to learn, later on, that this iron-willed officer has set a veritable example to the world itself: an object-lesson in ability and capacity. The ensuing night we "rest" (save the mark!) on a wooden bridge, laboriously dragged to our "claim," and surrounded by a pile of provisions bought from the leading grocery establishment, whose doors were guarded by the Military. (I have played Bridge, but during these hours of darkness, it was, for us, "Bridge" of another kind—sufficiently "hard," in all conscience, not mentally, but physically, and if there should have been any backwardness in appreciation, it was the bridge that was "wooden," and not the craniums of its occupants.) Perhaps I may mention

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that we have two companions—dumb ones. One is called "Smith and Wesson, 38 Hammerless;" and the other "Iver-Johnson, 36 Hammered." Next morning witnesses a meeting between the "Bridge" occupants and a Scotch family of our joint acquaintance, who are fellow-outcasts in the same vantage-ground. More "Bridge" and fires that evening; then, for a few more days, a nomadic existence in the open, with, at night, the shelter of a hut composed of old carpets and canvas, meals being cooked on an extemporised fireplace. At last, when prudence dictates, we depart to the welcome shelter of the house tenanted by the family mentioned, thereafter migrating to the rooms which we had bespoken prior to the 'quake—these forming part of a two-storey tabique dwelling-house, which suffered practically nothing, although situated on the steep side of a hill-valley. And so the primary events evanesced.

A few incidents remain silhouetted on the horizon of memory. Perhaps I may enumerate them. During the short time our gypsy-like existence continued, we "prospected" for water, ewers in hand, patiently waiting our turns at some humble "tap," and seeing, at times, the sedate heads of business houses also assuming the *rôle* of water-carriers. We proved, too, the hardly unalloyed delight of conveying heavy bedding material up a hill, under the incessant rays of a Chilian sun: a vagabondish couple, unshaven and unwashed, "seemingly annexing property really belonging to them, but which they had been kept out of by the rightful owner," as an Irishman might have said. In the darkness, we often sadly watched the encircling flames far beneath us, and heard, also, the sharp reports of rifle and revolver shots, signifying that, here and there, human lives ebbed away. Many bodies of the wretched thieves lay in the Gran Avenida del Brazil, fastened to tree-guards, and having a board above their heads bearing the words: "Muerto por Ladron," literally, "Dead, as thief." Grisly sights they were, so much so that I spare details. Yet delicately nurtured children and their gentle mothers saw, apparently unmoved, these stiffened, blood-clotted corpses. Surely, indeed, the stirring events of the time had benumbed the finer perceptions! Under the reducing-mill of officialdom, the number of robbers shot was given as some fifteen; but,

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actually, about two hundred and fifty fell a prey to the leaden death-messengers. The Chilian *canaille* are born thieves.

Business was at last attempted in tentative fashion. My department of a fine old office-building in Calle Prat had only some inkbottles upset, while the edifice itself merely sustained the loss of some interior plastering. A melancholy task for all insurance interests in Valparaiso then followed: that of taking out liabilities in the burned areas. During the work, one's heart grew heavy before so much desolation, and in vain conjecture of how the circumstances would finally end. An office colleague and myself carried out our share of such duty—partly on foot, and partly on horseback—with the nostrils continually inhaling a fetid atmosphere of burned merchandise, and—Ugh!—in places, carbonised flesh. Close on five thousand souls perished: a melancholy fact which strikes, with a fell significance, those who escaped through it all. Ah, yes!—familiarity never breeds contempt in the case of earthquakes, and I, personally, may heartily say that one such experience satiates, with a vengeance.

However, enough of the "personal" element: let us briefly consider, for a few moments, the "imperial" phase. I need not go into nice details as to the course of events affecting insurance interests subsequent to the catastrophe. The policies of all offices, native and foreign, contained the Earthquake Clause under differing guises; and, as an initial proceeding, liability was denied in categorical and united fashion. Thereafter writs were gradually served against the companies, and the cumbrous legal mills of Chile received such grist as never before. Later on, however, in cases where, among other reasons, defensive evidence was faulty, offices were permitted to purchase policies at varying percentages, the natives having greater license in this direction than the foreign companies. The suits in such instances were then waived, but the majority of the cases are being proceeded with, and already two preliminary decisions favourable to the companies have been given. As to the grand result of events, however, who will prophesy?

Well, Gentlemen, this recital of mine must now "cease and determine": craving respite, however, for one word. With Time's relentless march the number of problems

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confronting us increases—intricacy succeeds intricacy, and perplexity follows perplexity; but, in the fulness of time, the calm, concentrated Endeavour-Spirit surmounts all difficulties. Our business has had a glorious past—and the strivings of its servitors augur for it a still more aureate future.

Hasta luego!

19*th November* 1907.

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III.

NOTES ON SHOP RISKS,

BY

E. F. NEWLANDS,

Northern Assurance Company, Edinburgh.

THIS paper has been prepared at somewhat short notice to fill up the time of the Meeting to-night, because your Secretary considered that the lecture you have now heard was not long enough to occupy your attention for the whole evening. It will, therefore, bear evidence of lack of preparation, and, as its title would imply, it will be "scrappy" in its form.

The subject is both important and diversified. It derives its importance from the fact that a considerable proportion of the income of Insurance Companies represents premiums from insurances over shop risks. Although reliable information on the point is difficult to get, it will probably be no exaggeration to say that one-tenth of our premiums come from this source. Such a large volume of business will necessarily have a close relation to a big part of our losses, and to those connected with Offices where the ratio between shop losses and aggregate losses exceeds that between shop premiums and aggregate premiums, the matter may be one of vital importance. It is so diversfied as to be almost confusing. As regards hazard, it varies from the dairy and the fishmonger's shop, to the draper's shop, the general store, and the premises where oils are sold. From the point of view of size, the variation is

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equally marked; for, in close proximity to the place of business contained in one small apartment, we may find a retail establishment which fills a whole block or even more. In view of this diversity, it will not be possible within the compass of one paper to do much more than mention some of the important features of this section of our business. The rate suitable for a given risk is necessarily governed by many considerations. A number of the factors to be taken into account in fixing rates for shop insurances are not peculiar to the class, as they apply to a greater or less extent to other risks in the same localities. Such factors are construction of building, heating arrangements, exposure, proximity to extinguishing appliances, climate, etc. These features scarcely call for further comment here. It will, perhaps, be more profitable if we consider some of the elements of risk found solely or specially in retail shops.

Important features for consideration when determining rates and limits are whether the goods dealt in ignite readily, and whether they suffer serious damage through being in proximity to burning material. Everyone realises that some stocks are wholly destroyed or made quite unfit for sale in an astonishingly short time, if the fire be not coped with at its commencement. Instances of such stocks are drapery, fancy goods, and tobacco. But it is in connection with the adjustment of losses through heat, smoke, steam, or water, following upon a fire, that we come gradually to realise the susceptibilities of various commodities. The "man in the street" may think that such articles as butcher meat, hams, and the like, may actually be worth more after they have been subjected to a gentle singeing or steaming, and that consequently no loss should fall upon the Insurer, seeing that the value of the salvage exceeds that of the goods anterior to the fire. Unfortunately for us, we rarely, if ever, come across Policyholders who take this view. It is too often our experience that claimants ask for more than they are fairly entitled to. And yet it frequently happens that we modify our views about the seeming rapacity of claimants as we come across instances where serious depreciation has undoubtedly occurred, although, to our non-practical eyes, the injury is not apparent. Instances of these are found when boots and shoes and other leather

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goods have been in an atmosphere at a high temperature laden with steam; when tea, butter, or other food stuffs are tainted with smoke; or when soft goods have been impregnated with fumes from a smouldering fire.

Another factor that helps to increase Loss Ratios is a too lavish application of the element used to put out fires. Instances occur when there is reason to believe that firemen have worked "not wisely, but too well." You may remember that on one occasion, when Lord Byron was thoughtfully examining a dagger, he was heard to murmur, "I should like to know how a person feels after committing a murder!" We may not be curious like that passionate genius to experience the whole gamut of human emotions, but in some of us the boyish spirit of destruction dies hard, and, were we entrusted for a few minutes with a line of hose at a fire in a china shop, we should feel that our opportunity had come! On the faintest appearance of smoke, we should have a malevolent satisfaction in directing the stream along the shelves and in listening to the ware being dashed to pieces. Firemen are only human, and a certain percentage of them are sometimes so generous with the water as to create the impression that they share this feeling or are influenced by the idea that they are stimulating trade. If we give trained fireman their due, however, we must recognise that instances of such waste are getting rarer, and that generally they do not abuse their power.

There is an element of risk that we never dare to overlook, and it is one which it is very difficult to appraise. I refer to moral hazard. Every year assessors tell us of instances where the whole circumstances are so suspicious as to give them cause to believe that the Insured actually caused, or, at least, connived at the fire. Rarely can proof of guilt be obtained, and the Insurer has, therefore, no alternative but to meet the claim, and then cut the connection at the earliest possible moment. When we have even the slightest reason to believe that a proposer is not strictly upright in this respect, a suitable extra premium cannot be estimated, and the insurance is promptly declined. This course is followed also by some when they receive offers of insurances from people who are known to be in financial difficulties. But competition in

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trade—as in other lines of business—is so keen that only the worst cases get spoken about. Wholesale warehousemen and manufacturers so frequently finance retail dealers commencing business, and bolster up others, that many who are insured must be sorely tempted when business is poor to endeavour to realise some capital and get a fresh start by means of a carefully planned fire. One class of proposer, namely, aliens who are not recommended to us by others in whom we have complete confidence, is received coldly by Insurance Companies. Although there are, of course, many exceptions, it pays to exercise great caution in accepting insurances from them, because of the number of fires in insured premises of theirs, and of the difficulty usually experienced in arriving at a settlement.

In the adjustment of losses, there is frequently a difference of opinion between claimant and assessor as to the principle to be followed in arriving at the value of the property destroyed or damaged, and, as the concessions are nearly all made by the Insurers, the circumstance has a marked effect in raising the loss ratio. Keen business men express as much ignorance about the principle of indemnity as the average farmer does about the application of the three-fourths condition of average. The issue is obscured when the retail dealer manufactures some of the articles sold or spends time and labour upon them in increasing their value. But even in the ordinary case when a merchant merely sells commodities in the same form as he bought them from a manufacturer or wholesale dealer, the basis of settlement is often difficult to agree upon. It is impossible to convince some claimants that they are not entitled to profit on the goods destroyed. It may happen that for certain things they are awarded a price above cost, because the market value has risen between the time of purchase and the date of the fire, but that would not be profit, and it would certainly fall short of selling prices. Another point of difference that arises from time to time is the amount of depreciation sustained through stock being out of date or in any other way not readily saleable. All of us know that we never realise the value of a thing fully until we have lost it, and in the adjustment of stock losses particularly, we see this frequently exemplified.

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A fruitful source of loss in shops is faulty lighting arrangements; but, owing to the introduction of less hazardous systems, the danger has been considerably lessened. The substitution of electric or gas light for oil lamps and candles is the principal cause of this reduction, and the improvement is becoming more marked every year. Yet in the very safety of good electrical installations there lies a menace, as it engenders sometimes in the minds of those who fit up and those who use, a heedlessness of the power the electric current has to do mischief when it is mishandled. In electric light installations a fruitful cause of fires is to be found in the wiring. That part of the work may be of poor material, and yet, if it be not observed at the time of fitting up, and before it is covered up, it may serve its purpose more or less efficiently for months or years, and then a mysterious outbreak of fire occurs. It is astonishing, too, how frequently workmen lead wiring in close proximity to ordinary gas-piping, or fail to realise the danger arising from the wire of a bell-pull being allowed to abrade the insulation of the electric wire. It is often a serious thing for the Insurance Office if its clients are over-keen, and, when installing the light, give the contracts to men whose work is cheap, but faulty. The user of the light has generally some difficulty in realising that he may not take too many liberties with it. Portable incandescent lights are very handy, but if they are to be hung about like pictures, some care must be taken as to where the nails are driven. Our clients are sometimes slow to learn that they cannot in safety lay the lit lamps upon the stock they wish to illumine. A practice of this kind generally results in a charring of the article upon which the lamp is laid, and there is a possibility of the illumination being more complete than they bargained for!

In an age when we are always clamouring for more light and sunshine, and after having experienced many losses in premises where artificial lighting required to be frequently resorted to, it would not readily occur to us to think that even large shop windows may be a source of danger. Yet this is so, though happily to a very moderate extent. On a recent occasion a cotton window-blind in a shop was hastily torn down, as it was observed to be

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smoking, and apparently about to burst into flames. The only feasible explanation of the occurrence was that the sun's rays falling upon the glass bottom of a jar for sweets were focussed on the blind. Such an occurrence is probably uncommon, but it suggests the thought that were the reflecting agent outside the window the same result might follow.

The principal firm of Fire Loss Assessors in the East of Scotland has very kindly extracted for me certain particulars in regard to fires in shops which have come under their notice within recent years. These particulars have been summarised in such a way as to show the causes of fires in each class of shop, and also the times, the days of the week, and the months in which the outbreaks occurred. The tables are appended, and it is hoped they will be found of service (see pp. 38-40).

Having referred in a general way to some of the features of risk in connection with insurances applying to retail shops, let us consider in more detail the principle followed in rating the class. As you know, the Associated Offices have agreed upon minimum rates to be charged by them for all insurances of this kind, and the agreements containing these rates and relative conditions are to be found in the three Shops Tariffs applicable to the different sections of the British Isles. An examination of the Shops Tariffs makes it evident that the rates and conditions quoted in them could only have been arrived at after anxious thought, following upon the collection of very complete data. The Tariff has been gradually increased and improved in the light of experience, but it is no disparagement to anyone to say that it is still far from being complete. If premiums from shop risks represent approximately one-tenth of our income, we might have expected that such an important section of our business, and one that is, moreover, so diversified, would have been represented in our Tariff Book by an agreement so bulky as to be almost bewildering. Instead of this, we find that it is a comparatively short one, and that it is excelled in length by many Tariffs applying to classes of risk not one-twentieth so important. It seems tolerably safe, therefore, to conclude that sooner or later this Tariff will be the subject of revision

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and extension. Some critics point out that Insurance Offices made bigger profits before Tariffs were framed, and they urge this as an argument against the Tariff system being made more thorough. In looking backwards over a series of years, we are inclined to remember the Companies which have been successful, and to forget those that have gone under; but whether or not the ratio of profits was higher prior to the adoption of Tariffs than now, we must accept the condition of things as we find them at present, and shape our course accordingly. To be influenced by such critics would be as unwise as to abandon the search for gold when we ceased to pick it up in nuggets, or even dust. As it is a far greater achievement to increase the world's wealth by digging three-quarters of a mile into the bowels of the earth for quartz, and thereafter extracting from it, with the aid of science, barely half-an-ounce of gold from every ton treated, so we serve our day and generation well if, sparing no trouble, we so adjust our rates in the light of experience as to make them absolutely fair for Insured and Insurer alike.

It may be interesting if I attempt to forecast some of the lines upon which our existing Shops Tariffs might usefully be developed and otherwise altered. Ever since the Offices recognised that large establishments dealing in stocks readily combustible, required more onerous terms than small shops, difficulty has been experienced in devising an extra that will adjust itself to the varying sizes. The present system of graduating the extra according to the number of assistants employed is admittedly only a rough and ready way, although on the whole it gives an approximate idea of the size of each establishment. Sometimes, however, the rule operates rather hardly. Thus, in a place of business having a number of departments there may be a fairly large restaurant. The primary object of the extra is to penalise the class according to the quantity of stock kept. The stock in a restaurant might almost be left out of account, yet the waitresses and others there are charged for just as they would be were they engaged in the selling of draperies or any other hazardous stock. Again, in places where a considerable proportion of the assistants are employed in workrooms at millinery or dressmaking, the principle

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does not work very satisfactorily. Probably it would not be any improvement to graduate the extra according to the aggregate value of the stock, but perhaps it would be more consistent were we to take as our guide the cubical capacity of the portion of the premises used for the sale or storage of goods Alternatively, if we preferred to continue to measure the size by the number of hands, we might agree, for rating purposes, to look upon three, six, or twelve waitresses or dressmakers as the equivalent of one assistant engaged in the sale of goods.

Until recently, one great blemish in our scale of rating was that we did not, by means of abatement in premium, sufficiently encourage the erection of buildings more or less fire-resisting in their construction. Within the last twelve months this subject has been tackled, and we are not now so open to reproach as hitherto. Although the section of the Tariff dealing with this point is a great step forward, it is, admittedly, quite impossible to frame building rules so comprehensive as to suit all circumstances or to take into account every feature of diminished fire risk. In instances where clients occupy premises which just fall short of the lowest standard of fire-resisting buildings we have made provision for, or which have merely incombustible floors, it provides occasion for criticism. Such a place—particularly when it is sprinklered, fitted with a fire alarm, or well provided with ordinary fire appliances—is undoubtedly a more desirable place to insure than one with ordinary wooden floors. Our failure to make allowance for good features alienates clients, and gives an opportunity to Offices which are not parties to the Tariff that they are not slow to avail themselves of. Perhaps in the future the Tariff may be still further amplified to provide for such cases, or, if the circumstances are found to be so diverse as to prevent this course being followed, more equitable terms may be charged by the fixing of special rates.

Some think that the Tariff would be improved if it made clear when a tailor who deals in hosiery ought to be rated as a hosier, or when the rate for a ship chandler should be charged for the stock of an ironmonger who deals in paints, oils, oilskins, and the like. It is rather a

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remarkable omission that the Shops Tariffs do not specifically rate a stock of which there are so many instances (particularly in Scotland) as that of a drysalter. Unfortunately, it is still left to the discretion of each Office to decide whether an insurance of that kind is to be rated as the stock of an ironmonger and hardware dealer, retailing mineral oils, or as that of an oil and colourman. A definition of "fancy goods" would probably be of assistance in securing uniformity of rating for such stocks. Perhaps we do not attach sufficient importance to the fire risk arising from the storage of calcium-carbide in shops, particularly in seaports, where the amount may be considerable. The rating of pawnbrokers' stocks is one that we have been rather undecided about. Although losses to such stocks are usually not difficult to adjust, because the books are necessarily in such good order, still the articles pawned are of a character that deserves a higher rate than what is generally obtained.

General merchants' or dealers' risks form a class that might with advantage receive further consideration. Shops of this kind are very common in country parts, and most Offices will be prepared to admit that the losses experienced amply bear out the unfavourable impression their untidy and crowded appearance creates. Such a tradesman dealing in drapery goods is charged a certain figure. Let him materially increase the fire hazard by adding a considerable quantity of paraffin oil and we ask no higher terms. Even when this combination of risk is found in a building of iron or wood construction there is no obligation upon us under Tariff to charge a larger premium. In this, as in other instances, it is manifest that our rating principle is too general, and in equity we ought to introduce a more complete and graduated scale, making provision for the varying degrees of hazard.

Another change that would be very useful, particularly in Scotland, where the tenement system of property is so general, would be the listing of risks not wholly in the occupation of one tenant when the rate under Tariff exceeds five shillings per cent. From time to time we come across instances where the rate for a portion of a tenement works out at a fairly high figure under one or other of the

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sections of the Shops Tariff, and while we, if asked our terms for any portion of the building or for other contents, may quote the correct Tariff rate, namely, three-fourths that of the governing risk, we occasionally find that no difficulty is experienced in getting lower terms from another Tariff Office. Doubtless the lower quotation is based on inaccurate or insufficient information supplied, and comes to be made simply because a number of Offices have not the facilities for inspecting all properties which are only partly in shop tenure. It is unfortunate when a Company, even innocently, cuts in this way the rate of another Tariff Office. The public are inclined to think that some members do not abide rigidly by Tariff obligations, and such an impression is very much to be deprecated. The higher the conception the public hold as to the honourable way Tariff Offices stand by one another, the pleasanter will our work become. But, leaving individual interests out of account, it would surely be natural to expect from friendly Offices, who are parties to a common agreement, that if with a little extra trouble they can prevent one of their number from unwittingly making a fault, they will be willing to take that trouble.

The points we have been considering in the present Tariff as being capable of explanation and improvement are after all of minor importance compared to the changes which will in all probability ultimately be made. It was, we expect, a disappointed broker who once referred to a certain cautious Secretary as being a man who was not prepared to insure anything more hazardous than a stone quarry with a fountain playing into it. All of us are anxious to get that type of risk on our books. Unfortunately, we cannot get enough of it even to meet expenses. We have, therefore, to undertake heavier risks; but, if our terms are correspondingly increased, we can do so without misgiving. Some of us have visions of the time when our information will be so complete that for all the ordinary classes of risk—including the most of shops—the rates will be fixed with such mathematical accuracy as to meet the liability and provide a fair profit. It is to our Tariff organisation that we must look as the instrument likliest to bring this to pass. Whether the change will be a

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radical one, as it would be were we to adopt a system similar to the schedules of rating in use in the United States, or whether we shall continue with stately slowness to perfect our present Tariffs, the history of the future can alone tell. But of this we may be certain, that to an increasing extent will exact systems of classification be adopted by Companies, because the results which such classifications disclose form the surest data upon which to base our rates.

As a profession, we have laid ourselves open to the criticism that our failure to do more towards putting our rating system on a scientific basis, by the accumulation of data that our long existence ought to have made available, is not creditable to us. All of us recognise that insurances over certain classes of property result in a trading loss, while those over other classes pay us handsomely. Yet, though we may justifiably have that feeling of certainty with regard to the results under some classes, our opinions about other classes sometimes get rude shocks. We are naturally inclined to be unduly influenced by events in our immediate neighbourhood, or by instances that come specially under our notice. It may have been our lot during many years of service to have personal knowledge of fire after fire of a serious kind, say in chemists' shops. As a result we come to the conclusion that chemists' insurances are unremunerative, and we may fix rates and retentions accordingly. A sight of the classified experience over a series of years of a large Company may, however, show that chemists' insurances have yielded excellent results, and we are driven to the conclusion that we personally have simply been so unfortunate as to have had to do with an abnormal number of losses of that kind. It would not be safe either, to base rates on the experience of one Office alone, no matter what the size of that Office is, as the policies under review are not numerous enough to provide a true average. But, if reference to the classified experience of a number of large Offices disclosed that certain risks are consistently profitable, while others show a loss, it is surely advisable that both rates should be reviewed. Such a state of matters is of little moment if the classes are small. It simply provides an illustration of the truth

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that insurance is a system, whereby those who sustain loss are reimbursed out of the premiums paid by those who escape fires. The position is, however, entirely different if the classes showing such divergent results represent a considerable proportion of the aggregate premiums paid. Indeed, it cannot be too often insisted upon that if insurance business is to be carried on in a way absolutely fair, as regards premium, to Insured and Insurer alike, a laborious system of classification on a pre-arranged plan by a large number of Offices is absolutely indispensable. If, for instance, a shopkeeper of a class represented in every community alleges that the experience throughout the whole country for a series of years under insurances over stocks dealt in by him is highly favourable to the Insurers, we ought to be in a position to give him a complete and satisfactory answer by acquainting him of the actual experience upon which our rate is based. Should the figures prove his statement to be well-founded, the Offices would not be acting equitably with that class of Insured if they did not lower their terms to such a fair rate as would yield a moderate profit and nothing more. Having in view that, as a class, shopkeepers are probably the most important clients we have, and that in the conduct of their business they are accustomed to elaborate calculations before they arrive at selling prices, it behoves us so to frame our charges as to be able to show that our rates are no longer arrived at by a form of guess-work, as they must have been in the earliest years of insurance. To arrive at the selling price of an article, our clients add to cost price a percentage in respect of such fixed charges as rent, taxes, wages, etc., and after providing, if need be, for depreciation or bad debts, they add something more to represent interest on capital and profit. In cases where the combined experience of the Offices has been obtained, our rates have really been fixed upon the same principle, but too often we have extracted experience and revised rates solely because we were threatened with the loss of business. In the rush of our daily work, striving to retain and extend the connections we have formed, most of us have only time to do the duties that lie at our hand and demand our immediate attention, but it would add enormously to the

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prestige of the profession were a system devised whereby, basing upon national experience over a term of years, rates would automatically come up for re-consideration every three or five years. We have a fairly accurate idea of the expense ratio, and were we to add to that (1) the loss percentage which our combined experience would disclose; (2) say, five per cent to meet unforeseen contingencies and provide a reserve or conflagration fund; and (3) five per cent. for interest on capital, we should be obtaining a rate which would be likely on the whole to yield a fair profit to the Insurer. Such terms would probably be equally satisfactory to the Insured, as few of them would be content in their own business to earn such a small profit. The adoption of a rating system based on such a principle would incidentally have the effect of making it exceedingly difficult for Offices which commence business with the deliberate intention of cutting the rates charged by, and of offering higher agency commission than, the Associated Offices, to acquire a footing, as their heavy initial expenses would put them out of the running. This result is highly to be desired, because were rates to be fixed on a scientific basis with but a moderate margin of profit, the rash competition of irresponsible companies would soon cease when it became apparent that their continuance, or their flotation, simply resulted in a waste of money and energy. It is manifest, that were our premiums adjusted on the principle indicated, Offices which granted similar insurance at lower rates would simply be trusting that they would have the good luck to escape fires. Any business conducted in such a spirit of gambling inevitably meets its Nemesis. Sooner or later the end would come, and the passing hence of the Non-Tariff Companies would not then have the expensive funerals accorded to some of their earlier prototypes.

Perhaps the time may seem far off when all the Offices will agree to uniform classification and to the pooling of experience; but if even a few of the large Companies could come to a friendly agreement of this kind the benefits to be derived would soon be so apparent that others would consent to take this trouble also. When that time comes—as surely it must—when the Associated Offices will be drawn closer together in this way, some very interesting

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questions will come up for settlement. A decision will have to be come to as to whether the types of risk most frequently met with are alone to be classified. Probably the wellbeing of Companies would not be jeopardised if the rating of risks of a restricted class were left, as at present, to individual Offices; but classified experience would very likely show that it is in the rating of such risks the greatest divergence is found between the rate charged and what is actually required. This would emphasise the need of classification being taken up in a thorough way. Another subject for consideration would be the ratios to be obtained. Theoretically it would no doubt be advisable that the information sought for should be the ratios of fire losses to values at risk. If the introduction of the average or co-insurance clauses into our policies becomes more general—as is to be hoped—then perhaps the practice we are more accustomed to, of seeing the relation which losses bear to premiums, would be sufficiently accurate. Arising out of this community of interests, the Associated Offices might decide to "black list" undesirable connections, to agree upon maximum retentions, and also to settle the vexed question of foreign re-insurance by allotting surplus amounts to fellow members.

These latter considerations have, however, only a remote bearing upon the subject we are discussing, and need not be pursued further here. Of one thing we may be certain, namely, that our Tariffs for shop and other risks will ultimately become far more sub-divided and complete in every respect. A consequence of multiplication of Tariffs would be that our central rating body would become overburdened with work, and it would require to an increasing extent to delegate powers, under suitable restrictions, to local officials. This decentralisation would tend to increased efficiency in two important respects. In the first place, there would usually be greater expedition in coming to a decision, and, in the second place, rates in exceptional circumstances would be more equitable, as local knowledge would take into account good or bad features peculiar to isolated cases, and would reduce or increase Tariff rates accordingly. Emphasis may be given to this point by the quotation of the following telling sentence from F. C. Moore's

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great work on "Fire Insurance." "A system of insurance rating which does not discriminate between safe construction and unsafe construction, and between carefulness and negligence, is an injury to the community." Yet, whatever form our Tariffs may ultimately take, we need be under no misconception in thinking that rates will be fixed with such mathematical exactness as to make the adding together of their component parts as mechanically simple a matter as the mixing of teas or the blending of whiskies. There will always remain what may be termed the incalculable elements, such as moral risk, crowded stocks, inefficient management, exposure risk, etc. In giving due weight to the consideration of these points, the underwriter will have ample opportunities of showing whether he possesses the capacity for taking pains and the breadth of view which, when grafted to experience, make success in business a certainty.

19*th November* 1907.

[TABLE.

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TABLE OF CAUSES OF FIRES IN 537 SHOPS IN EAST OF SCOTLAND during a few Years previous to 1907.

Class of Shop.	Total No. of Fires.	1 Sparks descending Chimney.	2 Lights thrown from Outside.	3 Fire in adjoining Property.	4 Dropped Lights.	5 Sparks from Fireplace.	6 Lighted Cigarettes, etc., left in pocket.	7 Careless Use of Lights.	8 Hot ashes in bucket.	9 Vermin at Matches.	10 Defective Hearth.	11 Foul or defective vent or flue.	12 Defective Electric installation.	13 Defective Lamp or Gas.	14 Gas Explosion.	15 Contact with Gas or Electric Lamp.	16 Candles Upset.	17 Overheating of Hot Plate or Stove.	18 Fat, etc., Boiling Over.	19 Incendiarism.	20 Suspicions.	21 Unknown.
Baker and Confectioner	55	—	1	1	1	1		6	1	2	—	6	—	1	—	—	1	2	—	1	1	10
Basketmaker	3	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	2
Bookseller	4	—	—	—	—	—	—	2	—	—	—	1	—	—	—	—	—	—	—	—	—	1
Bootmaker	20	—	—	1	—	1	—	5	1	1	—	—	1	—	—	2	—	—	—	—	—	8
Butcher	6	1	—	1	—	—	1	—	—	—	—	1	1	—	—	—	—	—	—	—	—	1
Cabinetmaker	12	1	1	1	—	1	—	1	—	—	—	2	1	—	—	—	—	—	—	2	1	1
Chemist	16	1	—	—	1	—	—	5	—	1	—	—	—	—	—	2	1	1	1	—	1	2
China Merchant	5	—	—	—	1	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	3
Co-operative Stores	4	—	—	—	—	—	—	2	—	—	1	—	—	—	—	—	—	—	—	—	—	1
Corn Dealer	2	—	1	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cycle Dealer	10	—	—	1	—	—	—	1	1	—	—	—	—	1	—	1	—	—	—	—	2	3
Dairy	5	—	—	—	1	2	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	1
Draper	77	1	4	1	2	5	1	21	1	—	—	5	3	—	—	6	3	1	—	1	1	21
Dressmaker	2	—	—	—	—	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Drysalter	6	—	—	—	—	1	—	1	—	—	—	—	—	1	1	—	1	—	—	—	—	1
Electrician	3	—	—	—	—	1	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	1
Fancy Goods Dealer	5	—	1	—	—	—	—	—	2	—	—	—	—	1	—	—	—	—	—	—	—	1
Feather Dealer	1	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Florist	4	1	—	—	—	—	—	2	—	—	—	—	—	—	—	—	—	1	—	—	—	—
Fried Fish	6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	4	—	—	1
Fruiterer and Greengrocer	16	1	1	—	1	1	—	3	—	1	—	—	—	—	—	3	—	—	—	1	—	4
Furniture Dealer	12	2	—	—	—	—	—	5	—	—	—	—	—	—	—	—	—	—	—	—	3	2
General Merchant	16	—	1	—	—	1	—	2	—	1	—	1	—	—	—	—	1	—	—	—	1	8
Grocer	68	1	2	—	3	4	—	17	2	5	1	2	2	—	2	2	1	1	—	3	2	18
Hairdresser	6	—	—	—	—	—	2	—	—	—	—	—	1	—	—	—	—	—	—	—	—	3
Hatter and Hosier	7	—	—	—	—	1	1	2	—	—	—	—	—	—	—	1	—	—	—	1	—	1
Ice Cream	7	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	5
Ironmonger	25	—	—	1	4	1	—	8	—	—	1	—	—	—	1	1	—	—	—	1	1	6
Milliner	11	1	—	—	—	1	—	2	—	—	—	—	1	1	—	2	—	—	—	—	1	2
Musicseller	8	—	—	—	—	—	—	2	—	—	—	1	—	—	—	1	—	—	—	1	—	3
Newsagent	3	—	—	—	1	1	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—
Painter	12	—	2	1	—	2	—	2	1	—	—	—	—	1	—	—	—	—	—	—	—	3
Pawnbroker	13	—	—	—	—	—	—	4	—	—	—	1	—	—	—	—	—	—	—	—	—	8
Photographer	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	3
Picture Frame Dealer	3	1	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—
Plumber	2	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	1
Restaurant	8	—	—	—	—	—	—	1	—	—	1	—	1	—	—	—	1	1	1	—	—	2
Saddler	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3
Stationer	21	3	—	—	—	—	1	8	2	—	—	1	1	2	—	—	1	—	—	—	—	2
Tailor	38	1	2	—	1	2	2	6	—	1	—	—	—	—	1	1	2	—	—	1	1	12
Tobacconist	11	1	—	—	—	—	—	1	1	2	—	—	—	1	—	1	—	—	—	—	—	4
Umbrella Manufacturer	3	—	—	—	—	—	—	—	—	—	—	2	—	—	—	—	—	1	—	—	—	—
Watchmaker	10	1	—	—	1	—	—	1	—	—	—	1	—	—	—	—	—	—	—	—	1	5
Wine and Spirit Merchant	9	—	1	—	1	—	—	1	—	—	—	1	1	—	—	—	—	—	—	—	—	4
	537	17	17	8	19	27	8	117	12	16	4	27	14	9	5	24	12	10	6	12	16	157

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TABLES OF HOURS AND DAYS OF OCCURRENCE OF FIRES IN 597 SHOPS IN EAST OF SCOTLAND during a few Years previous to 1907.

Class of Shop.	Total No. of Fires.	Hours.								Days.							Total No. of Fires.
		Midnight to 3 A.M.	3 to 6 A.M.	6 to 9 A.M.	9 to 12 A.M.	12 to 3 P.M.	3 to 6 P.M.	6 to 9 P.M.	9 to 12 P.M.	Sunday.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.	
Baker and Confectioner	40	12	4	3	2	5	2	3	9	6	4	9	7	4	4	6	40
Basketmaker	3	—	—	1	—	—	—	—	2	—	—	1	—	1	—	1	3
Bookseller	4	1	1	—	—	—	1	1	—	1	2	—	—	1	—	—	4
Bootmaker	25	9	2	1	—	1	5	2	5	2	5	5	2	3	3	5	25
Butcher	6	3	—	—	—	—	—	2	1	1	1	1	1	1	1	—	6
Cabinetmaker	11	1	1	—	1	1	3	2	2	1	—	4	2	2	1	1	11
Chemist	18	1	1	1	3	4	4	3	1	1	5	1	4	—	4	3	18
China Merchant	10	1	—	1	1	2	2	3	—	—	2	3	2	1	2	—	10
Co-operative Stores	4	1	3	—	—	—	—	—	—	1	—	1	—	—	—	2	4
Corn Dealer	1	—	—	—	1	—	—	—	—	—	—	—	—	—	1	—	1
Cycle Dealer	17	1	3	—	2	2	1	3	5	1	4	3	4	3	2	—	17
Dairy	5	1	1	—	—	1	1	1	—	1	—	—	2	1	1	—	5
Draper	86	6	6	4	4	12	13	20	21	3	10	15	12	18	11	17	86
Dressmaker	2	1	—	—	—	—	—	—	1	—	1	—	—	—	—	1	2
Drysalter	6	—	1	—	2	—	2	1	—	1	—	—	1	2	1	1	6
Electrician	2	—	—	—	—	—	—	1	1	—	—	—	1	—	1	—	2
Fancy Goods Dealer	5	—	—	—	—	2	1	1	1	1	—	1	1	—	—	2	5
Feather Dealer	1	—	—	—	—	—	—	1	—	—	—	—	—	—	—	1	1
Florist	4	—	1	—	1	—	1	1	—	—	1	1	1	—	—	1	4
Fried Fish	6	1	—	—	—	1	3	—	1	—	3	—	1	—	2	—	6
Fruiterer and Greengrocer	15	1	2	3	—	1	2	3	3	5	1	3	3	1	1	1	15
Furniture Dealer	12	1	—	—	—	2	1	3	5	—	5	2	1	4	—	—	12
General Merchant	15	5	1	3	3	—	—	2	1	3	3	1	4	2	2	—	15
Grocer	76	13	7	11	2	4	14	5	20	7	11	13	9	7	15	14	76
Hairdresser	7	1	2	—	—	—	—	—	4	2	1	—	3	1	—	—	7
Hatter and Hosier	7	1	—	1	1	2	1	—	1	—	2	—	—	2	2	1	7
Ice Cream	7	5	—	1	—	—	—	—	1	—	—	4	1	—	—	2	7
Ironmonger	27	5	1	1	5	2	5	4	4	1	5	7	2	6	2	4	27
Milliner	16	1	—	1	—	—	4	4	6	1	2	3	2	4	1	3	16
Musicseller	7	—	1	—	—	—	1	1	4	2	1	1	—	1	1	1	7
Newsagent	3	—	—	—	1	1	—	—	1	—	—	—	2	—	—	1	3
Painter	13	1	—	1	4	3	—	1	3	—	3	3	5	—	2	—	13
Pawnbroker	17	1	—	4	3	2	3	2	2	3	4	1	4	1	2	2	17
Photographer	4	2	—	—	—	—	—	—	2	2	1	1	—	—	—	—	4
Picture Frame Dealer	3	—	—	—	—	1	1	1	—	—	—	1	1	1	—	—	3
Plumber	2	—	1	—	1	—	—	—	—	1	—	—	1	—	—	—	2
Restaurant	5	1	—	1	—	1	1	1	—	—	—	3	—	—	2	—	5
Saddler	3	—	2	—	—	—	—	—	1	1	—	—	1	1	—	—	3
Stationer	24	4	3	1	—	2	4	4	6	2	1	1	6	6	1	7	24
Tailor	42	14	2	2	3	—	2	10	9	2	5	6	4	10	5	10	42
Tobaccconist	11	—	1	2	—	1	1	1	5	1	5	1	1	1	2	—	11
Umbrella Manufacturer	1	1	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1
Watchmaker	12	1	3	2	1	—	—	2	3	2	1	2	1	1	2	3	12
Wine and Spirit Merchant	12	5	2	1	1	—	—	—	3	1	4	1	1	1	1	3	12
	597	102	52	46	42	53	79	89	134	56	93	99	93	87	76	93	597

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TABLE OF MONTHS OF OCCURRENCE OF FIRES IN 619 SHOPS IN EAST OF SCOTLAND during a few Years previous to 1907.

Class of Shop.	Total No. of Fires.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Baker and Confectioner	43	9	9	—	4	—	5	4	3	1	2	1	5
Basketmaker	3	1	—	—	1	1	—	—	—	—	—	—	—
Bookseller	4	3	—	—	—	—	1	—	—	—	—	—	—
Bootmaker	25	3	4	3	2	3	2	—	—	—	1	2	5
Butcher	6.	1	—	—	1	1	—	—	—	—	2	1	—
Cabinetmaker	13	3	—	1	1	—	2	1	1	1	—	—	3
Chemist	18	1	2	2	2	3	1	1	2	2	—	—	2
China Merchant	8	—	1	3	—	—	1	1	—	—	1	1	—
Co-operative Stores	—	—	—	—	—	—	—	—	—	—	—	—	—
Corn Dealer	1	—	—	—	—	—	—	—	—	1	—	—	—
Cycle Dealer	15	2	1	1	1	1	1	1	2	—	1	1	3
Dairy	5	—	—	1	2	—	—	1	—	—	1	—	—
Draper	86	17	9	6	3	5	1	6	5	7	4	9	14
Dressmaker	2	—	—	—	—	1	—	1	—	—	—	—	—
Drysalter	6	—	1	—	1	1	—	—	1	—	1	1	—
Electrician	3	—	—	—	—	1	—	—	1	—	1	—	—
Fancy Goods Dealer	6	—	—	—	—	—	—	3	—	1	1	—	1
Feather Dealer	1	—	—	—	—	—	—	1	—	—	—	—	—
Florist	4	2	1	—	1	—	—	—	—	—	—	—	—
Fried Fish	6	1	1	1	—	1	—	1	1	—	—	—	—
Fruiterer and Greengrocer	16	3	4	—	1	—	1	2	1	—	2	—	2
Furniture Dealer	12	1	1	—	—	4	—	1	1	—	2	1	1
General Merchant	19	2	3	3	1	2	2	2	2	—	—	1	1
Grocer	78	7	7	14	7	6	4	3	7	5	5	4	9
Hairdresser	10	—	3	—	2	—	—	1	1	—	1	1	1
Hatter and Hosier	7	1	1	1	—	—	—	—	—	3	—	1	—
Ice Cream	7	1	1	1	2	—	—	—	—	—	1	1	—
Ironmonger	31	7	4	—	3	3	1	1	2	4	1	2	3
Milliner	15	2	1	3	2	1	—	1	—	—	—	3	2
Musicseller	9	2	3	—	2	—	—	1	—	—	—	—	1
Newsagent	3	—	—	1	—	1	—	—	—	—	—	—	1
Painter	13	1	2	1	1	—	—	2	—	1	1	1	3
Pawnbroker	17	2	1	4	2	1	—	—	2	1	1	1	2
Photographer	3	—	—	3	—	—	—	—	—	—	—	—	—
Picture Frame Dealer	3	1	—	—	—	1	—	—	—	—	—	—	1
Plumber	2	—	—	—	1	—	1	—	—	—	—	—	—
Restaurant	8	3	—	—	1	—	—	—	—	—	—	2	2
Saddler	4	—	1	—	1	—	—	2	—	—	—	—	—
Stationer	24	3	1	5	2	2	—	2	1	2	2	2	2
Tailor	43	5	1	10	2	3	1	3	2	6	5	1	4
Tobacconist	17	2	—	—	—	1	2	—	4	2	1	5	—
Umbrella Manufacturer	1	—	—	—	—	—	—	—	1	—	—	—	—
Watchmaker	10	—	—	1	2	—	—	1	1	1	1	2	1
Wine and Spirit Merchant	12	2	1	1	2	1	—	1	—	—	—	—	4
	619	88	64	66	53	44	26	44	41	38	38	44	73

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IV.

THE CLAIMS DEPARTMENT OF A LIFE OFFICE,

BY

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VARIOUS Papers on sundry aspects of the law affecting Life Assurance have been read before this and other Insurance Institutes. Some of these deservedly rank as classics in the particular sections to which they apply. Yet the view has been expressed that they present difficulties to others than close students of the law. It is the unambitious object of these few notes to fit certain points of importance therefrom, along with such others as may appear to be complementary, into a light framework of official procedure and organisation. There will be no attempt to discuss over-difficult or abstruse questions, but merely, as it were, to introduce my younger brethren to a Claims Department, describing a few of its outstanding features, and presenting to their notice matters likely to be interesting, instructive, or stimulating. By this means it is hoped that should any of them subsequently enter such a department, he will not be altogether at sea, however different its practice might be from the partly imaginary one here described.

By way of preliminary, however, a few words of introduction.

It might on first thought be supposed that the settlement

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of life assurance claims should be no very elaborate matter, scarcely seeming to call for the labours of a special department and the expenditure of large experience and ripe judgment; yet reflection will show how the matter developes and becomes complicated, for, while it is true that the claims for the most part pass through simply and easily enough, there are some that provide difficulties and pitfalls, calling for ever-active vigilance. Beyond this, still more, the Claims Department, necessarily requiring much legal knowledge in the ordinary course, has in that respect an accretive tendency, being apt to become more and more a Legal Department for the whole office, an Advisory Board on all kinds of legal conundrums, a Court of First Instance, as it were, which has to pass judgment before any case is submitted to the Office Solicitor.

Thus the duties will be seen to be:—

(1) Those properly appertaining to the settling of claims.

(2) Such other duties as are more conveniently carried out in such Department than elsewhere (*e.g.*, the carrying through of loans, etc.).

(3) Other assistance, usually of a simple legal nature, that it may be possible to render, to avoid the delay and expense of a formal reference to Legal Advisers.

Before proceeding further, step into the Claims Department itself, and let us discuss things a little more closely. It will be admitted that the work of the Department, if it is to be done well, must be carried on in suitable quarters, and hence a preliminary survey of the premises will be in order.

This small ante-room is used as a place for interviewing claimants, borrowers, etc. It is clear that it is preferable they should not be seen within the Department itself, where their presence would distract, and equally it is advisable that there should be at disposal some spot more retired than the general office. The interview may sometimes be long, and borrowers especially are occasionally sensitive lest knowledge of their operations become public property.

Here is the larger room wherein the general work of the Department is carried on—high, well lighted from two large windows, and less cumbered with big volumes than

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many of the Departments. Mainly, that is, because the books of record, etc., are kept either in the small room beyond, or in the general office through the sliding door to the left, at present standing open.

Now that small room is of far more importance than might appear, and much thought has been given to its contents. Observe that the doors are of great thickness and evidently very heavy, suggesting that the room is a safe. This it is, in fact, the idea being that were the whole building destroyed by fire this room would be preserved, and the volumes in it would supply the bare essential information regarding all the business of the office, which would enable its affairs to be carried on without involving hopeless chaos.

Above this room on the next floor is another for storing other valuable documents, such as security bonds, etc.

Returning to the main room, it will be noticed that a young man has just brought in a basketful of letters, representing the first portion of the day's post. These are handed to the Head, who looks them over, distributing the bulk to those of his assistants most fitted to deal with them.

But before pursuing this aspect further, some few words must be devoted to the nature of the business transacted.

A man desires to assure his life; he makes application on what is called a Proposal Form, giving certain information regarding himself, known as a "proposal." It may be observed that the proposal should be filled up in the handwriting of the proposer, but if for any reason the agent should fill it up, he does so as agent of the proposer and not as agent of the Office. Then forms are filled up by friends of the proposer; these are called Private Friends' Report Forms. Probably he was introduced by an Agent, who completes an Agent's Report Form. Then a physician nominated or appointed by the Office has to examine the proposer as to his eligibility for life assurance, and if the proposal is for a large sum, it may in some cases be necessary to have a further Report from the proposer's private medical attendant. All these documents are, for short, called the Proposal Papers, and are usually preserved together in bag-shaped envelopes or covers which are filed in numerical order.

The proposal having been accepted, a Letter of Accept-

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ance is issued, followed, on payment of the premium within a limited period thereafter, by a provisional receipt, the policy being delivered subsequently, Then, too, there are special features that may occur here. Thus, the life assured may not be the proposer; another person may be assuring his life, or the proposal may be on several lives, or the proposer may be assuring his life for the benefit of his wife under the Married Women's Property Acts. It will be understood that the procedure here described is but one of many. It is not claimed to be the best, but is workable, and, it is believed, easy to follow.

A very little reflection will show that many difficult or delicate legal points may already have cropped up—insurable interest, agency, representations, warranties, stamp duties, commencement of risk, payment of premium, policy conditions, etc., all of which are certain enough to be handed over to this Department. It is not, however, proposed to deal with them further here; careful attention has been devoted to them in other Papers on the subject.

The policy then is now issued, and shall be assumed to be on the proposer's own life for the whole term of life, with participation in profits.

It is at once a document of value, becoming indeed more valuable with every premium paid, until at last the claim arises, when, of course, the value is greatest. During the existence of the policy it may become the subject of dealings, and it is of the utmost importance to determine accurately the nature of these dealings, since on this will depend our knowledge of the persons to whom the sums assured should be handed over, when the policy becomes a claim.

At the date of claim—

(1) The policy may be in the possession of the assured himself, either through the absence of any dealings with the policy, or because it has come back into his possession again.

(2) It may belong absolutely to some other person or persons, either for their own benefit, as purchasers under an absolute assignment, or for the benefit of third parties, if they are trustees.

(3) The assured may have parted with certain rights in his policy, retaining the reversion, as for

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example, he may have borrowed money and in return given an assignation in security.

Opportunity may here be taken of mentioning the special Scotch custom of making what is in form an absolute assignment, but attaching to it what is termed a "back-letter," wherein undertaking is made to reassign if certain conditions be fulfilled. The question has been raised whether the Office should interest itself in the existence of such a document, and as diverse views have been expressed, it would be of much interest were some attention to be directed to this point in the discussion. [The opinions expressed were to the effect that the Office should not concern itself with back-letters.]

The Office knows—or should know—all that is going on regarding its various policies, for the Policies of Assurance Act, 1867, practically compels assignees to give notice to the Office of the date and purport of the assignments under which they hold, in order to be able to sue in their own names.

Usually the Office receives a notice in duplicate of each assignment and reassignment, and, in return for a fee of 5s. authorised by the above Act, returns one of the duplicates with an acknowledgment of intimation thereon. Sometimes no duplicate is sent, and the notice is retained by the Office, acknowledgment of the intimation being given if desired. The acknowledgment will usually state that no admission as to the validity of the relative deed is expressed, but merely that the notice has been received and recorded (see No. I. of Appendix), and an analogous statement will be made should the deed itself be sent for inspection (see No. II. of Appendix.) The value of the acknowledgment to the assignee is to prove that the Office received the notice—in case through carelessness or otherwise it became lost without being recorded. The date of this acknowledgment may be very important, as it may determine the priority of assignees, as *e.g.*, in the case of bankruptcy.

From the above it will be seen that an important duty in our Department is:—(*a*) To record against policies the notices of dealings affecting them; (*b*) to preserve carefully the notices themselves.

There are differences in practice on both points, and no

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pretence will be made to indicate the best. Individual fancy counts for much, and probably it does not greatly matter, if only there be consistency and care.

Thus as to (*a*), some Offices keep a special register in which are duly entered particulars of all notices which are either indexed up and so referred to on occasion, or some further reference is carried to the Copy Policy Book or to the Policy Register. Possibly this is less advantageous than to make arrangements for a direct entry into the Copy Policy Book or what serves as such.

Some Offices preserve actual duplicates of each policy written, others a bare note of the general form used, adding in full any special provision. In either case it is no difficult matter to interpolate leaves all along whereon particulars of notices of assignments, etc., may be written. This may also be employed for other purposes, as, *e.g.*, endorsations as to changes, or if the policy be lost or under forfeiture through non-payment of premiums, etc.

As to (*b*), the main difference of opinion is as to whether the notices themselves should be all fixed into one book together, or filed away, say with the proposal papers. The latter is most convenient for many purposes, but all having experience of office work will know that there is real risk of any loose document going astray, especially if its absence may escape notice for years—and it should be mentioned that an Office may at any time be called upon to produce the original notice in a Court of Law. This liability to produce is also—though, it may be held, in a lesser degree—the trouble when all the notices are bound together. It is not an unknown case that such a bound volume, containing naturally hundreds of other notices, has had to be conveyed long distances to await the proverbial procrastination of judicial procedure. The inconvenience caused in an office by such a course need not be described in detail.

Every reputable Life Assurance Office allows to its policyholders certain privileges: it will grant loans on security of the policies, or transform the policies into paid-up assurances free of future premiums, or grant a value for bonuses, and various other options are available. Any such dealing must, of course, be carried through in legal form, and hence falls naturally to the Claims Department.

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Let us suppose a loan is desired. The policyholder has probably ascertained from the Actuarial Department already how much he can get, and writes for the amount. This letter will come to the Claims Department, when the following steps must be taken :—

(1) Look up the notices affecting the policy to see that the applicant is entitled to borrow, and observe also that the policy is in force.

(2) Get from the Actuarial Department a statement of the value. In some Offices also that Department supplies a bag-shaped envelope into which will be inserted the loan bond and other papers affecting the loan, and containing on the outside sundry particulars regarding the policy.

(3) Prepare a loan bond for signature by the borrower.

(4) Send the loan bond to the Inland Revenue Office to be stamped, if a stock of stamped forms is not kept in the Office.

(5) Advise the borrower to call for the money (or as otherwise arranged), to sign the bond and deliver up the policy.

(6) Have the amount of the loan entered in the Loan Registers for the book-keepers.

Such is the simple procedure if the title be clear, if there have been no dealings with the policy. But if there have been dealings, the applicant must be instructed to submit the policy and all deeds affecting it, that it may be seen whether he really has the power to borrow. In case of surrender, a similar procedure has to be gone through. As to the varieties and complexities of this question, a whole volume might be written.

We shall instead hasten on to the final and decisive stage, when a claim has arisen. This incidentally will throw many a sidelight on the principles which must govern intermediate dealings, although it has to be borne carefully in mind that the two cases are by no means on all fours.

One morning a letter is received stating that Mr A., the assured, is dead, and asking what steps are requisite in order to obtain payment of the sums assured.

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The first thing to do is to look up the books as before and get out the original proposal papers.

Our guiding principles must be :—

(1) To make certain that a person of the name given is dead, and

(2) That the person dead is really the life assured.

(3) To get evidence of age, if not already furnished.

(4) To ascertain who are the persons who can give a full legal discharge for the policy monies.

(5) To take care that no statutory liability remains unfulfilled by the Office, and lastly,

(6) To see that the money is handed to persons duly authorised to receive it.

In the usual course a stereotyped letter would be issued to the claimant, along with forms to be completed by (1) the medical attendant at the last illness, to prove the death (see No. III. of Appendix) ; (2) a personal friend of the deceased to prove identity (see No. IV. of Appendix).

This letter should narrate that the sums assured become payable on production of proof of death and of title to the policy satisfactory to the directors. An explanation of these should also be given, thus :—

> "THE PROOF OF DEATH required in ordinary circumstances consists of (1) Extract from the Register of Deaths; (2) Certificate by the medical man who attended deceased in his last illness; and (3) another by a person who can testify to the identity of the deceased with the person whose life was assured. Forms of Certificate enclosed herewith.
>
> "THE TITLE required usually consists of (1) the policy itself; (2) all assignments or other documents by which it may at any time have been conveyed from or reconveyed to the member; and (3) 'Confirmation,' 'Probate,' or 'Letters of Administration' to the estate of any person deceased having an interest in the policy, whether as member, or as assignee, or otherwise."

It should further be stated that when the directors have received and approved of such proof of death and title, a receipt will be forwarded for execution, while a note of the policies in question and the sums payable may suitably be attached.

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This in simple cases may sufficiently cover the various points, but it will be well at this stage to treat each with more thoroughness, and to deal with such cases as may arise. For this the more strictly legal aspects have to be considered. Yet even here some words of caution may be permitted. The public estimation in which a Life Office is held is much influenced by the manner in which it settles claims; promptitude, and readiness to assist in overcoming difficulties, or to run any trifling risk due to some minor technical defect, bulk very largely. On the other hand, unnecessary risks must not be run, since it would be a serious matter to be compelled to pay a claim twice over. It is here, in difficulties such as this, that the above-mentioned knowledge and experience come into effective play. It is obvious that no definite rules can be laid down, and in all cases of doubt the Office Solicitor should be consulted, even though his technical opinion can be forecasted. And in spite of this, the General Manager may accept the suggestion of the Claims Chief that he is reasonably satisfied that all is "above-board," and that something less than the strict legal demands may be passed.

The Burden of Proof (see Bunyon's "Law of Life Assurance," 4th Edition, p. 596, etc,) of the event (generally death or survivance) having happened, it will be gathered, in all cases rests with the assured, who must tender due evidence to the insurers. In the policy it is usually stipulated that the evidence produced must be satisfactory to the directors — satisfactory here meaning sufficient (Strong *v.* Harvey).

In the Scotch case of Ballantine *v.* Employers' Insurance Company (31 Se. L. R. 230), where the policy required the representatives of the deceased to furnish all such information and evidence as the directors should consider necessary or proper, the Office demanded a *post mortem*, which, not being done, the company refused to pay. The Courts held that there had been no application for the examination to any person authorised to give it, and consequently no refusal to supply information; but further intimated that the condition did not entitle the directors to demand a *post mortem* examination at all.

In ordinary cases where the death occurs in the United

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Kingdom a death certificate, to be obtained from the Registrar of Deaths, will be required, and, in most Insurance Offices, an additional certificate, to be signed by the medical attendant of the deceased stating the cause of death and the duration of the illness.

The official death certificate will be in the form prescribed by the General Registry Acts (6 and 7 Wm. IV. c. 86, 37 and 38 Vict. c. 88 for England; 43 and 44 Vict. c. 13 for Ireland; 45 and 46 Vict. c. 47 for Scotland, but this does not apply to policy claims), on which it will be observed that the cause as well as the fact of death is certified by the medical attendant. When a British subject dies at sea on board a British ship similar evidence is to be obtained from the Marine Registry and log-book extracts, and in the case of military or naval persons on active service, from the War Office or Admiralty. When death occurs in any of the colonies or in a foreign country, the best evidence to be obtained under the circumstances and according to the custom of the country should be furnished. In many countries reliable official registers are kept, certified copies of which when duly authenticated would be the proper evidence to be given.

Occasionally it is difficult to procure definite evidence of death, as *e.g.*, where a man went abroad and was never again heard of, or disappeared from on board a steamer, or whose clothes were found by the sea-shore, the body never being recovered. In the case of a disappearance, it is a rule of law (but not applicable to Scotland) that a presumption of death arises at the expiration of seven years (in conformity with the statutes 19 Car. 2 c. 6 as to Estates *pour autre vie* and 1 Jac. 1, CII. s. 2 against bigamy), not that the death occurred at the beginning or end of any particular period during the term, but that after it has elapsed the party is not living. Moreover, sufficient inquiry must have been made, and if there is any doubt, it becomes a question of fact to be decided by a jury. The claimant must prove the death, but what constitutes sufficient evidence is not easy to gather; presumptive evidence, however, may decide the question, as *e.g.*, if the assured were on a small ship that must have been overtaken by a violent storm and the ship was not heard of for two years, it was

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held that this was sufficient evidence to warrant a jury in finding that she was lost in the storm, and that the assured perished with her (Paterson *v.* Black and Park).

The proper ruling was much discussed in the case of The Prudential *v.* Edmonds (2 App. Cas. 487, quoted in Bunyon, 4th edn., p. 529), in which the question to be decided was whether Robert Nutt, the assured, who left home in 1867, was alive or dead in April 1874, when the action commenced. A relative stated that she had seen him alive in 1873; but the circumstances were such that she might have been mistaken. The jury, under the direction of the Judge, declaring,

> "That it was impossible to say the man had not been heard of when admittedly he was said—though perhaps erroneously—to have been seen,"

found a verdict for the Company. The Court of Appeal ordered a new trial on the ground of misdirection. On Appeal from this decision the House of Lords was equally divided, but all the Lords, however, considered that the verdict was probably right.

Thus it will be seen that when the claim is made it is not always beyond doubt that the assured is dead. Disappearance and supposed death by drowning or other accident are not altogether infrequent, and it is clear that temptation to fraud has some bearing here, and it is the duty of the Office to make very careful investigation should there be anything to arouse suspicion.

Thus the wife of a certain man assured duly claimed the policy monies. It appeared that he had visited a seaside town where he had resided in earlier life, had gone to swim, and had presumably been drowned, as his clothes were found on the seashore and were not reclaimed by him. So far well, but it became rumoured that he had been seen at the railway station, and further that the ancient advice of *cherchez la femme* was apposite. So it appeared, for when the lady left home some time afterwards she was watched—and the claim was not paid on that occasion.

On other occasions, however grave the suspicion may be, all attempts to obtain evidence may fail, and then it is usually best to settle. For, although in theory the fact of death has to be satisfactorily proved by the claimants,

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questions of policy now come in. And it has to be remembered (*a*) that an Office that disputes doubtful claims loses reputation—it should only contest clear cases; (*b*) that juries do not favour Companies as against individuals. Still, legally, the Office is not bound in Scotland by the Act of 1891 (54 & 55 Vict., c. 29), which provides that in all cases where a person domiciled in Scotland has disappeared without being heard of for seven years or upwards and no presumption arises that he died at any definite date, he shall be presumed to have died seven years precisely from the time of his last being known to be alive—for life assurance policies are expressly excluded from this; nor is the Office bound in England to accept as reasonable proof an order of the High Court made in pursuance of 6 Anne c. 18 declaring that the assured is to be deemed to be dead so as to allow the person entitled in remainder to his property to enter into possession. (Doyle *v.* City of Glasgow, 53 L. J., ch. 527.)

It was pointed out that if the assured reappeared he might get his property again, but the Life Office would have little chance of recovering the policy monies. Still, when such order is made, it behoves the Office to endeavour to trace the assured, for in one case it was ruled that notice of the application for the order should be given to the Office. (*Re* Barber, 11 P. D., 78. *Re* Kirkbride, L. J., n. c., 1891, p. 96.) After such notice the Office might be bound by the Order of the Court. Speaking practically the view may be ventured that what it comes to is this, that in cases of doubt the Office can claim a reasonable time to make inquiries for its own satisfaction, without much fear of an adverse judgment should the claimants be over-impatient and press an action for payment. Yet, after such attempts have been made to trace the assured as may appear practicable, but without success, settlement is the best way out.

Proof of Age.

If evidences of the date of assured's birth have not previously been submitted—in other words, if the age has not been admitted, such evidence must now be produced. In the case of a British subject, a certificate of birth, to be

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obtained from the General Register Office, is conclusive legal evidence. But there are still cases which are not entered, and for these other evidence must be sought. Sometimes a baptismal certificate has to be accepted, but, of course, the assured might have been several years old when baptized. Various religious communities also keep records which afford the necessary evidence. When such fail, recourse must be had to entries in family bibles or to other memoranda, to senior relatives or to "oldest inhabitants."

In most of the European countries, especially where military service is compulsory, there is no difficulty in procuring reliable proof of age.

Even here, however, it is not always certain that the person whose birth is recorded is actually the assured. It is not uncommon for a person to be known by another Christian name, and so completely to forget his true name as to have the policy written in the assumed name. When death occurs at advanced age, it is very difficult to get any evidence to clear up the doubt in such cases as this—but here again policy steps in, and says that at such an advanced age a less rigid attitude may be assumed, indeed it has to. This is apart from changes of name by Deed Poll; by Royal Licence or Act of Parliament, when the licence with the Royal sign-manual affixed, and the Gazette or copy of the Act of Parliament may be produced; or by marriage, when the marriage certificate can be called for.

Foreigners are occasionally rather troublesome in this matter, for they frequently adopt a British name without going through any legal procedure; when their own has been obviously anglicised it is not so bad, but to identify an unpronounceable Polish name with the simple and common Harris or Brown is no easy task.

Regarding the two certificates to be produced, certificate by the medical man who attended the deceased in his last illness, and that of identity which should be completed, if possible, by some personal friend or acquaintance, neither interested in the policy nor related to the deceased—these, as we have seen, are self-explanatory; but in connection with deaths abroad, special mention should be made of the importance of requiring that the certificates, if completed

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by persons not resident in the United Kingdom, should be signed in presence of, and the signatures attested *under seal of office* by the British Consul, or other local official in whose presence such documents are usually completed.

When death occurs at sea, a certified extract of the event from the Register of Shipping and Seamen should be obtained along with the certificate, together with some evidence that the assured did actually sail on the ship. This may take the form of statements by ship's officers or fellow-passengers. In these cases of death abroad also, it will be well to ask for the production of letters to friends in this country wherein reference is made to the death. Having become satisfied as to the fact of death, a communication may be sent to the claimants advising them of this, and stating that the sums assured will be payable after the title to the policy has been produced and found satisfactory to the directors.

Claims by Survivance.

Before passing on, however, it may be well to digress for a little and discuss the simpler case of a claim by survivance under an Endowment Assurance, a class which is becoming numerically more important every year. The Actuarial Department should supply towards the end of each year a list (readily compiled from their Valuation Cards or Class Books) of all the Endowment Assurances which will mature during the coming year. The Claims Department should look into each case some time before the due date and enter into communication with the member, so that if possible prompt payment may be made. A printed form may be issued to the policyholder (see No. V. of Appendix), on which he may make application for the amount payable, and this course has the advantages of saving correspondence, and showing the applicant clearly what he has to do to secure payment.

The Title.

The next step is to ascertain the person or persons from whom a proper legal discharge for the policy monies can be obtained, to whom, in short, payment can safely be made. When the policy becomes a claim, it should be delivered up

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to the Company, though if it be lost its non-production will not debar the parties from recovering, but the Company will be entitled to demand an indemnity. In the event of no dealings being recorded, this person will be the legal personal representative in England; all the personal property, including *choses in action*, of which a policy is one, passing (as the case may be) to the executor or administrator by virtue of the probate of the will.

In Scotland (see Crosbie, "Daily Questions of Legal Title," *Journal of the Federation of Insurance Institutes of Great Britain and Ireland*, Vol. IV., p. 335) the proper title to be produced to the Company is the confirmation or warrant issued by the Sheriff entitling the executor to uplift and administer the movable estate of the deceased, as contained in the inventory on which the confirmation proceeds. The confirmation must be of the whole movable estate of the deceased, and if part, say the policy, be omitted, the executor must take out an additional warrant or eik. In the case of large estates, however, it is not unusual for the executors to take out an eik for the policy monies apart from the general estate, in order to have some ready money to go on with, or to pay death duties.

In this case the precaution to be observed is to see that the eik covers any bonuses that may be attaching to the policy, as well as the original sum assured.

When any sole or last surviving executor-nominate has died, with funds in Scotland standing in his name as executor, confirmation by his executors-nominate to his proper personal estate shall, whether granted before or after the passing of the Act, be valid and available to such executors for recovering such funds, provided a statement thereof shall have been appended to the Inventory (Executors Scotland Act, 1900, sec. 6). Where one of two or more executors dies, the office accrues to the survivor or survivors, and executors, like trustees, may act by a majority of their number as a quorum, unless the trust-deed provides for a quorum.

It is important to observe whether any executor is appointed a *sine qua non*, so that if need be any discharge to the Company shall have his signature or consent.

Where no one comes forward to take out confirmation

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as executor, it is open to any creditor of the deceased to be confirmed as executor-creditor to so much of the estate as will enable him to make good his debt.

Probate. In the case of persons dying domiciled in England or Ireland the Probate or Letters of Administration granted in these countries and bearing that the deceased died there, must, in order to be effectual in Scotland, be produced in the Commissary Court and a copy thereof supplied to the Commissary Clerk, who thereupon endorses the principal document to the effect that it has been produced and a copy deposited. The Probate or Letters will then have the like effect as if confirmation had been granted in Scotland; and it is essential to see that these formalities have been complied with, unless, of course, the Office has a special Act of Parliament whereby it has acquired a domicile in these countries.

Foreign Grant of Representation. The Revenue Act of 1889 enacted that in the case of persons dying domiciled abroad it should not be necessary to secure Grant of Representation (Confirmation, Probate or Letters of Administration—Crosbie, *op. cit.* p. 361) but it is necessary to have proof (1) that the person effecting the assurance died domiciled abroad; (2) that the grant is properly made in accordance with the Law of Domicile of the deceased. As regards the colonies this is usually termed an exemplification. If the grant be in a foreign language it should be accompanied by a certified translation thereof, by, or attested by, the British Consul.

When dealings are recorded affecting the policy, matters become more complicated, and great care must be exercised. The assured may have parted altogether with his rights in the policy, and this may be by what is called an absolute assignment, or he may have retained certain rights.

Assignments in short may be divided into three classes, viz., absolute, by way of mortgage, and in trust. In an absolute assignment the assignor completely divests himself of all interest, past, present, or future. When the assignment is by way of mortgage the mortgagor does not assign away his entire interest—he has still an estate, technically known as the "Equity of Redemption"—which really means his right to pay off all his mortgages.

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By Section 22 of the Conveyancing and Law of Property Act, 1881 (which, however, does not apply to Scotland) a mortgagee, where the mortgage is made by deed dated after 1st January 1882, is empowered to give a good discharge for all monies payable under his mortgage. In cases where the mortgage deed is dated before the 1st January 1882, or where the mortgage irrespective of date, is not created by deed, the assent of the mortgagor's representatives would probably still be asked for. In Scotland unless the bond and assignation contains a power to discharge, the personal representatives of the mortgagor should join.

All documents connected with the notices should be asked for, as their non-production may be due to the fact that they have been deposited as security elsewhere, or the dealings may be such as to irrevocably divest the assignor of the power of further conveying. It, however, by no means follows that a Company has a right to demand production of all documents of which it has notice, and a good deal of discretion has to be exercised as to what deeds should or should not be insisted upon. A large proportion of policies issued sooner or later find their way into the hands of a banker as security, and when the loan is repaid the policy and mortgage are simply handed back, no release being executed, and the question arises as to how the mortgage must be released before the mortgagor is paid.

The general rule as to reconveyances is that any agreement must be released by the same method as that by which it is created; if by deed, the release should be by deed; if by other writing, then the reconveyance should follow the same form; but on the other hand it has been decided that a mortgagee may release the mortgage by simply writing "cancelled" across it and signing his name (see Howell "Assignments of Policies of Life Assurance," *Journal of the Federation of Insurance Institutes of Great Britain and Ireland*, Vol. VI., p. 373), (Harrison *v.* Owen, A. & K. 520; Goold *v.* Adams, 13 L J N S Ex. 40).

Moreover it is not necessary that any reconveyance duty be paid; a receipt stamp is not even required if the mortgage be duly stamped (*vide* Stamp Acts—Receipts, Exemptions). Many varying opinions have been held as

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to whether a receipt stamp is required in the case of a receipt endorsed on a policy, but it is understood that the Inland Revenue authorities have at last conceded that there is no necessity for such a stamp.

If all the documents produced relate exclusively to the policy they should be retained, but if they deal with other property they must be returned, and an undertaking for their production obtained. This undertaking to produce (see No. VI. of Appendix) is liable to agreement duty of 6d. Bunyon says that in addition to the undertaking to produce, certified copies of the documents should also be supplied at the claimant's expense. But frequently it will not be found desirable to endeavour to insist on such copies being supplied. And in dealing with persons of standing there does not seem to be any imperative necessity. While on the subject of production of documents it may be noted as a matter of practical interest that In re *Haycock's policy* (1 Ch. D. 611) it was held that a Company was justified in refusing to pay the absolute assignees of a policy until it was satisfied that a prior mortgage of which it had received notice, many years previously, had been satisfied, and that it was the duty of the claimants to satisfy the Company on this point.

It is very doubtful if the mere deposit of a policy would give the depositee power to discharge the Company without the consent of the personal representatives of the assured. In fact the cases of Drummens *v.* Hare, Crossley *v.* City of Glasgow Company, and Webster *v.* British Empire Mutual Company go to prove that he has no such power. In the first case a policy was handed over as a gift and it was decided that while the instrument itself passed there was no right to recover. In the second case policies were deposited in security, and on action brought to compel payment without consent of the personal representatives of assured, it was held that the Company were justified in refusing to pay without their consent. The contention in the last case was similar to that in the second, and the Judge went so far as to lay it down that if the assignee in such a case subsequently makes good his claim, the Company will not be bound to pay any interest from the date on which the claim fell due. These cases suggest

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the method usually adopted to overcome defects, outside stamp duty, in a title, viz., joining the assignor or his representatives in the discharge as consenting parties to the payment to the assignee.

In the case of trusts the trustees are the only parties with whom the office can deal, and they are entitled to receive all monies, and to give receipts therefor.

Trust property is usually vested in two or more trustees, and the 38th section of the Conveyancing Act, 1881 (which does not apply to Scotland) provides that in the event of the death of one or more of the trustees the trust-estate shall vest in the survivor or survivors for the time being. If all the trustees are dead, and the executor of the last deceased trustee claims payment, refusing to appoint new trustees, it would appear that a payment to him is good.

The Trustee Act, 1896, enacts that "It shall be lawful for a trustee to appoint a banker or solicitor to be his agent to receive and give a discharge for any money payable to such trustee under or by virtue of a policy of assurance by permitting such banker or solicitor to have the custody and to produce such policy of assurance with a receipt signed by such trustee." While all the trustees must join in giving a receipt, the receipt of only one out of the several executors is sufficient. In Scotland a majority of trustees can discharge, unless the trust-deed otherwise provides for a quorum.

If there be conflicting claims to a policy, the Company may call on the parties to interplead, that is to say, it may insist that they contest the matter between themselves without making the Company a party to the action. In other words, and to divest the matter altogether of technicalities, a Company on being made aware that there are adverse claimants, may reply that the quarrel is none of its, and may leave the combatants to fight it out among themselves.

The Company may then get rid of the matter by lodging the money in Court.

In adopting this course the Company does not entirely shirk responsibility, and, if it appears to the Judge that it acted with unnecessary caution, it will have to bear costs of paying the money out.

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The following information bearing on this point, taken from "The Companies Acts" lectures, by A. C. Clauson, delivered before the Institute of Actuaries, may be found useful:—"It has long been the practice of the Court of Chancery—or, to give it its modern name, the Chancery Division of the High Court—to allow trustees to pay money into Court when there is any doubt as to the ownership of the money, or as to what the various rights are of the various beneficiaries. Paying the money into Court means paying the money into the Bank of England to the account of an official of the Court. When the money has been so paid into Court, it can only be dealt with under an order of the Court, and the trustee who pays the money in is free from responsibility as to the division of the money, the Court undertaking to decide to whom the money belongs. The scheme of the Payment into Court Act of 1896 is to put life assurance companies into the same favourable position as trustees, as regards payments into Court. If a Company has any doubt as to the persons entitled to any policy monies, it may pay the policy monies into Court, and thus is freed from any obligation in respect of them. If any person considers that he has any claim to them, he must apply to the Court for payment out, and the Court will decide who is entitled to the money. As to the details of payment into Court, you will find some rules in Order 54 C of the rules of the Supreme Court. These rules provide in the first place that when a Company wishes to pay monies into Court, it must file an affidavit by one of its officers describing the policy, stating the various claims that have been sent in to the Company, and stating that the directors consider that no sufficient discharge can be obtained for the policy monies except by payment into Court. The Company must also submit to pay any future interest or any costs which the Court may see fit to order it to pay. The Company must also undertake to forward to the proper official any future claims which may be sent in to it. The Company is not allowed to take advantage of the Act if there is any action pending in relation to the policy monies. If any claimant has actually started an action, the Company must abide by the result of the action, and can not get rid of its responsi-

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bilities by paying the money into Court. The Company must give notice of the payment into Court to everyone who makes any claim to the money; and when the payment into Court has once been made, no application with regard to the funds need be served upon the Company, but the Company may possibly be ordered to pay the costs in connection with the claim, and, if it is ordered to do so, it will be bound to do so, having regard to the undertaking to that effect contained in the affidavit already mentioned. There is one point to notice, and that is that the Company must pay into Court the whole of the policy monies; it must not deduct from the policy monies the expenses of payment into Court. These expenses will presumably be borne by the Company and represent the price it pays for being allowed to escape the responsibility of deciding to whom the money belongs."

Large assurances are often effected to meet the Death Duties, and years ago a queer little problem presented itself here. The receipt of an executor is good before Probate of the Will is granted, even should he die before obtaining; but, as the fact of his being executor can only be proved by the probate, and a debtor is entitled to have the evidence of the fact legally testified and preserved, the executor must prove the will before the payment is made. It should be said that there is distinct necessity for caution in this point, for the title of the administrator depends solely upon the grant of the Court, and should payment have been made in terms of a will produced, there is risk, should the will be spurious, or a later one produced, that the Office may be compelled to pay the money a second time, unless probate had been obtained of the spurious or revoked will. On the other hand, it is believed that probate will not be granted until the Duties are paid, and so it is evident that some device must be resorted to. This was managed by the executors-apparent as they may be termed, being accompanied to the Court by a representative of the Office taking with him a cheque for the requisite amount. But it was soon found that the Inland Revenue Authorities would accept the Office's cheque, and so that little difficulty was overcome. (See No. VII. of Appendix.)

There are one or two miscellaneous remarks that may be

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made, thus, when the assured is bankrupt at the time of his decease, his executor is not entitled, but the policy with the other *choses in action* vests in the trustee in bankruptcy (46 and 47 Vict. c. 52 s. 44).

The Probate or Letters of Administration must be taken out in a Court of competent jurisdiction and stamped with an amount not less than the particular demand, for the Probate can only be received in evidence where properly stamped, and a larger demand would prove the insufficiency. To ascertain the Court in which Probate or grant should be obtained reference should be made to Bunyon, 4th edition, p. 606, where the history and peculiarities of Probate Courts are fully described.

It is well to preserve along with the Papers a copy or extract of the principal provisions of the Confirmation, Probate, or Letters of Administration as the case may be. A form (see No. VIII. of Appendix) should be kept in stock by the Office suitable for the purpose. That the copy should be reliable, it should always be compared and signed by a responsible official. Incidentally, it may be remarked that similar copies should be preserved of the Probates, etc., of deceased trustees, assignees, and others through whom the rights in policies may pass. It is not proposed to deal more fully with this, except to recommend a study of the authorities, Bunyon, Currie, and others, especially the concise summaries of Crosbie (already mentioned) and Sprague (Transactions of the Faculty of Actuaries, Vol. II., p. 343).

A policy may be specifically bequeathed, and it is interesting to observe the curious way in which this comes about. The legatee becomes entitled, not because the policy is vested in him by the will, for, as has previously been remarked, the legal interest or the right to sue remains in the personal representative, but because the Court will not permit the executor, etc., to act counter to the will, but will make him a trustee in order that the intent of the testator may prevail (Wright *v.* Wright 1 Ves. 411, and other cases).

In consequence, however, of the rule of law that all dispositions of personal property are subject to a prior charge for the payment of debts, into which the Office need

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not inquire when paying the claim to the executor, etc., we have the practical office rule that the executor's assent must be given.

The title being at last brought into satisfactory shape, a form of receipt (see No. IX. of Appendix) may be prepared, special attention being given to the case of payments to trustees (see No. X. of Appendix.)

In preparing these few notes, which it is hoped may smooth the way of the student in approaching more profound treatment of the topics in question, and in endeavouring to impart an air of cohesion and reality to various points usually treated theoretically and apart, free use has been made in particular of Bunyon's "Law of Life Assurance," Howell's "Assignments of Policies of Life Assurance," and Crosbie's "Daily Questions of Legal Title." Mr Constable's valuable paper on "Assignations of Life Policies and Legal Decisions Thereon," read before the Society last session, had not appeared in print at the time of writing.

I have further to thank my colleague, Mr Alexander Mann (as well as other friends) for kindly looking over the manuscript.

17*th December* 1907.

[APPENDIX.

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APPENDIX.

I.

To be Stamped on Notices.

*Edinburgh,*_____

A Duplicate of this Notice received by the

_____

Society of this date.

(Sgd.)_____

Note.—In acknowledging intimation of the Deed mentioned in this Notice, no opinion or admission is expressed as to the validity of such Deed, or the legal effect of the intimation upon the rights of parties.

II.

To be Stamped on Deeds.

*Edinburgh,*_____

Intimated to the_____

_____Society of this date.

(Sgd.)_____

Note.—In acknowledging intimation of this Deed, no opinion or admission is expressed as to its validity, or the legal effect of the intimation upon the rights of parties.

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III.

MEDICAL CERTIFICATE OF DEATH

to be supplied by the Representatives of the late_____ _____to the_____ _____Society in connection with the claim under Polic No

1. Did you attend the late _____ in the fatal illness ?	1.
2. Where did death take place ?	2.
3. What was the date of death ?	3.
4. What was the cause of death ?	4.
5. How long had symptoms of the last illness shown themselves ?	5.
6. Did any disease precede, or coexist with, that which was the immediate cause of death ? If so, please to mention the nature and duration of it.	6.

I hereby declare that I have answered the above Questions to the best of my knowledge and belief.

Signed at_____ this_____day of_____

(*Signature*)_____

(*Qualification*)_____

When the Certificate is made by a person resident abroad, it should be signed in presence of, and the Signature attested *under Seal of Office* by the British Consul, or other local Official in whose presence such documents are usually completed. When death occurs at sea, a certified extract of the event from the Register of Shipping and Seamen should be sent with the Certificate.

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IV.

The following Certificate should not be made by a person related to the deceased or in any way interested in the Policy, nor by the Medical Attendant, whose Certificate is required in another form.

CERTIFICATE OF IDENTITY required by the _____ _____SOCIETY, on the occasion of the Death of

_____

Assured with the Society by Polic No._____ on h Life, dated_____1_____

I,_____of_____ _____, Do hereby certify that I was personally acquainted with the late_____ for a period of _____years prior to h death, which event, to the best of my knowledge and belief, took place at_____ on or about the_____day of_____19_____, that I am satisfied as to h identity with the person above described, and that, so far as I had means and opportunity of judging, he must, at the date of h death, have been about the age of_____years.

Signed by me at_____ this_____day of_____19_____

(*Signature*)_____

Note.—When the Certificate is made by a person not resident in the United Kingdom, it should be signed in presence of, and the Signature attested *under seal of office* by the British Consul, or other local Official in whose presence such documents are usually completed. When death occurs at sea, a certified extract of the event from the Register of Shipping and Seamen should be sent with the Certificate.

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V.

APPLICATION FOR PAYMENT of the Sums assured under Policy No._____on Life of_____ due by survivance to the_____day of_____ 19____.

_____

Address of the Policyholder and Date of Application

To the Manager of the

_____Society,

Edinburgh.

SIR,

The Sums Assured under the above mentioned Policy having become due to me by survivance, I enclose the Policy, and the various Deeds and Documents affecting the same as under noted, which form the Title thereto, and will thank you to send me the receipt for signature.

I am,

Your obedient Servant,

Signature of the Policyholder _____

_____

List of Deeds and Documents sent herewith, by which the Policy has been conveyed from or re-conveyed to the Policyholder.

(*If no such Deeds or Documents have been executed, the fact should be stated here.*)

_____

The above Form of Application must be filled in by the Policyholder in h own handwriting.

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VI.

FORM OF UNDERTAKING TO PRODUCE DOCUMENTS.

Polic No. on Life of

.....

.....

.....

do hereby acknowledge the right of the

SOCIETY to production of the documents relating to the above Polic , and mentioned in the annexed Schedule, and to delivery of copies thereof.

Dated at the day of 19

Signature

SCHEDULE.

Date of Deed.	Nature of Deed.
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....

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VII.

MEMORANDUM regarding the application of a Sum Assured to the payment of Estate-duty.

Policy No._____for £_____on the

Life of_____

If the above Policy is continued in force until the death of the assured, and has not been assigned or otherwise dealt with, the Society, on proof of death, will, at the request, in writing, of the persons or person who shall appear to an ordinary Court of Directors of the Society to be then entitled to call for and obtain probate of the will of the deceased or to obtain a grant of letters of administration or confirmation of his estate, and on their or his executing a discharge of the sum assured, or such other sum as may become payable under the Policy, pay to the Commissioners of Inland Revenue, or to the official or other authority or authorities for the time being competent to receive the same, such a sum, not exceeding the amount payable under the Policy, as shall be payable for estate-duty under the Finance Act, 1894, or any statutory alteration thereof, on the property passing on the death of the assured ; and the balance, if any, of the said amount payable under the Policy to his executor or administrator when legally constituted.

By Order of the Court of Directors

_____

EDINBURGH,_____

_____ ____19

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VIII.

Extract from Probate of Will or Letters of Administration of Assured under Polic No.

The Court from which the Probate or Administration was obtained.	
Description of the Document, whether Probate of a Will, or Letters of Administration without a Will, or Letters of Administration with the Will annexed, etc.	
Name and Description of the Testator or Intestate.	
The date of Death of the Testator or Intestate.	
To whom the Grant was made.	
The date of the Grant.	
Gross Value of Personal Estate within the United Kingdom, per Affidavit.	£
Estate Duty at £ per cent. paid per receipt on Affidavit.	£
Here add *a copy* of any special memorandum which may appear on the Grant; such for instance as "*A. B.* having renounced the execution of the Will," or, "power reserved of making the like grant to *C. D.*," etc.	

I certify that I have this day examined the Probate (or Letters of Administration) above described, and that the foregoing particulars are correctly extracted therefrom.

Date_____19____ *Secretary in*

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IX.

Received the _____ day of _____ _____ Nineteen hundred and _____ from the _____ _____ Society the sum of _____ _____ _____ payable to _____ on _____ certain polic _____ of Assurance as on the margin hereof, upon the decease of _____ _____ in virtue of

STAMP

which sum is received by _____ in full satisfaction and discharge of all claims and demands on the said Society, under and by virtue of the foresaid Polic _____ which _____ given up by _____ to the said Society to be cancelled.

Signed by _____
In presence of
Signature of Witness _____
Address _____
Occupation _____

Signed by _____
In presence of
Signature of Witness _____
Address _____
Occupation _____

PARTICULARS OF PAYMENT.									
No. of Policy.	Original Sum Assured.		Bonuses to Date of Claim.			Total.			

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X.

PAYMENTS TO TRUSTEES IN ENGLAND AND IRELAND.

POLIC No._____

The Society have been advised that where Policy-moneys are payable to Trustees they must be paid in one or other of the following modes:—

I. By Cash paid to *all* the Trustees, who must *all* be personally present at the time.

II. By Cash paid by the Society into a Bank to the Trustees' joint account.

III. By Cheque drawn to the order of *all* the Trustees (naming them), crossed generally and marked "not negotiable."

IV. By Cheque drawn to the order of a Banker or Solicitor, who shall present, as agent for the Trustees, the Receipt for the sums assured, signed by *all* the Trustees.

Accordingly when the accompanying discharge is being executed by *all* the Trustees they should at same time complete *and all sign* the subjoined Form of Instructions as to the mode of settlement required by them, and cause the Discharge and Instructions to be presented together to the Society for payment.

If settlement is required under Head III., the Name, Occupation, and Address of the person to whom the Cheque is to be sent or given should be inserted in the following Form.

Form of Instructions as to Settlement under Head III.

With reference to_____claim against the Society under the above Polic_____hereby give notice that_____shall be prepared to take payment on the_____day of_____and have to request that it be made by_____ *Here insert Name, Occupation, and Address.*

All the Trustees to sign here

*Date*_____19

NOTE.—To secure prompt settlement, this Form should be completed and forwarded with the Discharge to the Office of the Society in_____not less than two days before that on which payment is desired.

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V.

SOME REMARKS ON MICRO-ORGANISMS,

BY

DR EMIL WESTERGAARD.

Lecturer on Technical Mycology, Heriot-Watt College, Edinburgh.

THE subject on which I have the honour of addressing you to-night is one of considerable importance in a great many ways—of far greater importance than the little attention it generally receives would lead one to believe. Its chief importance is, however, of a general nature, and although micro-organisms may often be the direct cause of disease and death,—and perhaps even in a few cases of fire,—and thus affect the interests of insurance companies, this is only one side of the question, and, as I hope I shall be able to show you, by no means the most important one. The influence which these modest beings have on the entire living world is much more far-reaching, and it is from this general point of view that I propose to treat the subject to-night, hoping that if the little I may have to say is not of special interest to you as members of the insurance profession, it may still be of some use in attracting your attention to what is perhaps to many of those present a new page in Nature's great book of wisdom.

The word micro-organism simply means microscopic beings, organisms so small in size that they are invisible to the naked eye, and can only be seen by the aid of the microscope. Of such micro-organisms we know a great number, and many more undoubtedly await discovery. Although in

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the case of such extremely simple organisms it is often difficult, if not impossible, to decide whether they belong to the animal or to the vegetable world, it is nevertheless quite certain that both forms of life are represented. In discussing the micro-organisms to-night I shall, however, confine myself to those which are commonly recognised as constituting the simplest forms of plant life, the lower fungi, including the bacteria. The lower plants or thallophytae are usually divided into two groups, of which the algae possess chlorophyll, enabling them to obtain the supply of carbon necessary for their life by assimilating the carbon dioxide of the atmosphere, whilst the fungi, through the absence of chlorophyll, depend on other organisms for their food supply, living either as parasites on other living organisms, or as saprophytes on dead organic matter. The fungi are further divided into schizomycetes or bacteria, and the eumycetes, which latter group is again divided into the phycomycetes or algic fungi and the mycomycetes or higher fungi. The last mentioned group includes such highly developed fungi as ordinary mushrooms, less pretentious forms such as the blue mould or penicillium, and microscopic plants as saccharomyces or yeast. To the phycomycetes belong some of the most common moulds, *e.g.*, the mucor. Without going into details I should like in a few words to explain the development of the fungi, taking the bacteria as a class, and, as examples of the higher fungi, the penicillium, the saccharomyces, and the mucor, and thereafter proceed to a discussion of their general importance. Penicillium is perhaps the fungus most frequently met with, at least it is undoubtedly the one most often noticed. Its conidia, the cells by which it multiplies, may be said to be present practically everywhere, with the result that wherever conditions are suitable we find a development of that bluish green mould which everybody knows so well. And the conditions are very often suitable, as this plant is not at all particular, a little moisture, a trace of some organic matter and the temperature not too low and not too high are all that is required. Its shape is often, when allowed to develop undisturbed, very regular and pretty, as will be seen from the following slide.*

* The lecture was illustrated by slides, which are not reproduced.

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The next slide shows the fungus magnified, and it will be observed that it consists of a mycelium or felt-like web of threads of cells, separated by transverse partition walls. Some of the branches on the surface are divided in a fork-like manner, and these carry small bottle-shaped cells, the so-called sterigma, at the end of which are produced chains of round cells or conidia, those nearest the sterigma being the youngest. These conidia are the means by which the fungus multiplies and spreads, and the rapidity with which they are formed and the enormous number in which they are produced, together with their power of resisting adverse influences, such as heat, cold, and starvation, accounts for the omnipresence of this fungus. In addition to the formation of conidia, another form of multiplication is found in penicillium, viz., the ascospores produced inside special spore-mother-cells or asci, as distinct from the conidia formed outside the mother cell, or rather by the dividing off of a part of it. The production of ascospores is in this case preceded by the formation of a kind of resting stage or sclerotium, being a comparatively large hard mass of mycelium. When this is placed under suitable conditions it absorbs moisture, and a division of the cells in the interior takes place, resulting in the formation of a number of oblong asci in which the spores are formed, to the number of eight in each cell, by a division and subdivision of the nucleus of the mother cell.

The saccharomyces, to which belongs the yeast utilised in the fermentation of beer and wine and in the making of bread, is a microscopic one-celled plant, round, oval, ellipsoid, or sausage-shaped. The shape of the cell differs in the different species and varieties and also according to the age and conditions under which the development takes place. Some species possess a variety of forms, while others are very uniform in appearance, as will be seen from these slides. The appearance of the yeast under the microscope is accordingly no criterion of its purity. In the saccharomyces we find, as in the case of penicillium, a multiplication as well by externally formed conidia as by internally produced ascospores. Under ordinary conditions, when the plant develops in a liquid, only conidia are formed by budding of the cell. If the new cells are not immediately separated

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from the mother cell chains may be formed as in penicillium, but with this difference—that the youngest cell is here the one that is furthest away from the mother cell. The spore formation takes place only in the presence of a plentiful supply of air. The time required under standard conditions to form the first indications of spores is constant for each species of saccharomyces, and varies with the temperature. As pointed out by Professor Hansen, to whom we are indebted for most of our knowledge about these fungi, we have in this fact a valuable means of distinguishing and identifying the different members of the saccharomyces family, which, owing to the simple form of these one-celled organisms, it is in most cases impossible to distinguish morphologically. The spores are formed in a similar manner as in the asci of penicillium, but as the saccharomyces plant consists of only one cell, the entire plant is here converted into an ascus, and the spores are usually less numerous, two to four being most common. The saccharomyces cell may in other words be regarded either as a mycelium or as an ascus; which part it assumes depends upon the circumstances.

To the mucor family belong a number of commonly occurring moulds, often forming a loose greyish felt-like coat on decaying fruit or other organic matter. As will appear from the slides the mycelium consists of one single, often very long, cell, with a multitude of branches. Cell walls dividing the mycelium do not occur except in special cases and only in connection with the formation of spores and conidia. The spores are formed in sporangia, produced by the swelling of the end of mycelium—branches protruding into the air. Into these a number of nuclei travel from the mycelium, and the sporangium is closed by the formation of a cell wall, which sometimes extends into its interior, forming what is called a columella. Round the nuclei the spores are now formed, and by increasing in size they ultimately burst open the surrounding sporangium wall and are set free. Another form of spores is sometimes observed, the so-called zygospores, which are the result of a fushion between the contents of two mycelium branches approaching each other. The zygospores are large in size, almost as a pin's head. They can scarcely be considered a

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means of multiplication, but are more probably a form of resting stage. In addition to the spores, we have conidia which are here called gemmæ. Pairs of transverse cell walls are formed in the mycelium, and the cells thus separated off increase in size, while their contents become concentrated in appearance and highly refractive, producing a resemblance to a string of gems, hence the name. When the gemmæ are set free, they may, under certain conditions, not at once develop into a mycelium, but proceed to form buds in a manner resembling the budding of yeast.

The bacteria are the lowliest and simplest of all known forms of vegetable life. They are exceedingly small one-celled organisms, and they multiply by fission, that is, the individual is divided into two by the formation of a cell wall through the centre and vertical upon the long axis. The division is preceded by a uniform stretching of the cell: an increase in size by the formation of an additional part to the cell, or apical growth, is not known in the bacteria. This multiplication is very rapid. Under favourable conditions the number is doubled in from twenty to thirty minutes. The conditions are, however, rarely so favourable, and in any case they soon cease to be so, owing to exhaustion of the available food supply, and the retarding effect of the products formed by the bacteria themselves during their development. A number of bacteria produce spores in their interior; but as there is usually only one spore formed in a cell, this can scarcely be regarded as a means of multiplication. The biological function of the bacterium spore is undoubtedly to preserve the species from extinction through adverse conditions, such as high temperature. They possess a very high resisting power, in some cases surviving boiling in water for a considerable time. The shape of the bacteria may be either globular, in which case they are called cocci, micrococci, diplococci, streptococci, etc., or cylindrical. The cylindrical bacteria may be straight staves—bacilli, bacteria, clostridia, etc.—or they may be more or less bent, in which case they are called vibrio, spirillum, and spirochaete. In addition to these simple bacteria, there is a somewhat higher developed group, the members of which form multi-individual colonies of distinct shape, which have the appearance of multi-

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cellular organisms of much higher position in the botanical system. To this group belong the sulphur and iron bacteria and others.

A great number of bacteria possess the power of locomotion, being able to move about in the liquid in which they live by means of fine hair-like protuberances, called flagella. The rapidity with which they move seems very considerable when observed under the microscope, but it should be remembered that although it is actually great compared with the size of the bacteria, the distance observed is magnified at the same rate as the bacteria, and the real distance is very small indeed. Through their life and development the bacteria cause profound changes, usually of the nature of decomposition of the substances in or on which they live. Part of these substances is utilised by the bacteria as food material, and indirectly for building up the new individuals, but very large quantities are simply decomposed in order to obtain the energy liberated by the decomposition. In this latter case, the quantity acted upon seems very great as compared with the bacteria themselves, the presence and development of which is always invisible to the naked eye. According to the nature of the most apparent decompositions caused by them, the bacteria are often for convenience sake divided into physiological groups, such as zymogenic bacteria, causing fermentation, as, for instance, lactic, buturic, acetic acid bacteria, putrefactive bacteria, etc.; chromogenic bacteria, causing production of colour; photogenic or light bacteria; thermogenic or heat bacteria; and pathogenic bacteria, causing diseases in animals and plants.

In considering the effect of these various micro-organisms on the existence and development of the human race, the question may perhaps be divided into three, viz.—(1) their function in the world's economy, (2) their utility and interference in our industries, and (3) their favourable or unfavourable effect on our health.

You are aware that certain elements must be represented in a suitable form in the food material of animals and plants. Of these elements there are two which, in addition to the components of water, are required in very large quantities, viz., nitrogen and carbon. Both

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of these elements can be absorbed and assimilated by the higher plants in the shape of simple inorganic compounds, but in order to be of value as food material to the animals they must be in complex organic combinations, so that the animals depend upon the activity of the plants for the assimilation of these elements, and the building up of the substances directly or indirectly utilised by them as food. As it must be assumed that the quantity of these, as of other elements in all shapes and forms, remains constant, and that we are not getting a supply from other parts of the universe, and as these elements are being continually used, it is obvious that they must in some manner or other be kept in constant circulation, and utilised over and over again, or the available supply would become gradually smaller, and ultimately be exhausted. There are, fortunately, no indications of such exhaustion, and the manner in which the nitrogen and carbon circulate is therefore one of great interest and of the profoundest importance in nature's economy. Nitrogen is found as free nitrogen in the atmosphere (of which it constitutes a little less than four-fifths by volume); in inorganic combination, chiefly as salts of nitric acid and of ammonia; and in organic combination forming part of living or dead animal and vegetable bodies, or as products formed by these. Although the plants may assimilate nitrogen in various forms, their principal source of nitrogenous food is the nitrates, and the question of the circulation of nitrogen therefore resolves itself into a question of the manner in which nitrates are constantly being formed in nature. If we start with the nitrogen present in plants as organic compounds we find that these may undergo decomposition after the death of the plant, either by the activity of bacteria, the so-called putrefaction, or by being used by animals as food and digested by them. In this latter case it is partly reconverted into complex organic compounds forming part of the animal body and partly excreted as waste products. This process may, of course, be repeated several times, and the substance again used as food for other carnivorous animals. It will, however, in all cases ultimately share the same fate of being changed into inorganic matter through the activity of bacteria, whether such activity be

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merely a single hydrolysis, as the fermentation of urea, or a series of complicated decompositions, to which we give the common name of putrefaction. The result is in all cases that the nitrogen is found as salts of ammonia. These salts now undergo a process of oxidation, whereby they are again, through the activity of certain species of bacteria, and in the presence of the carbonates of the alkalies or alkaline earth, converted first into nitrites, and thereafter into nitrates of the bases present. In this manner the nitrogen is again brought into the form most suitable for assimilation by plants. The circulation of the nitrogen is, however, a great deal more complicated. The nitrates formed by the oxidation of ammonia through the activity of the so-called nitrifying bacteria may again be reduced to ammonia by the activity of other species of bacteria, and will thus have to undergo another process of oxidation. Of more far-reaching importance, however, is the so-called denitrification, whereby the nitrogen is liberated, and, as free uncombined nitrogen is not assimilable by plants, at least temporarily withdrawn from the circulation. This denitrification is also accomplished by bacteria, and the quantity of the nitrogen which is thus liberated is very considerable. In smaller quantities nitrogen is also liberated during the putrefaction, and to a somewhat larger extent through purely chemical processes, more especially the combustion of nitrogenous organic material. It is evident that as these processes are continually going on there must be some way in which the free nitrogen is again brought into the circulation. This is to some extent effected by a chemical process whereby the free nitrogen is oxidised through the influence of atmospheric electricity, but in a much larger degree by the action of the nitrogen-binding fungi and bacteria, which, in contrast to all other living beings, possess the power of assimilation of the free nitrogen, and of these we know two groups, viz., those which by assimilating the nitrogen and forming it into a part of their own body through their ultimate decomposition bring it back into the circulation, and those which, in combination with certain higher plants, chiefly the members of the leguminosae families, carry out a similar function. The bacteria of this last-mentioned group cause the formation

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of swellings on the roots of the host plants, the so-called nodules, and their presence and activity explain the well-known fact that the cultivation of such plants as peas, beans, clover, etc., actually makes the soil richer in nitrogen, instead of making it poorer, and thus has a similar effect to artificial manuring. Extensive experiments have been carried out, with a view to utilising these facts practically, by adding cultures of specially selected bacteria, either to the soil or to the seeds of leguminosae, in order to increase the binding of the nitrogen. In some cases these experiments have been extremely successful, whilst in other cases the results have been negative, showing that there is still something that requires clearing up.

The circulation of the carbon is, in the case of a very large quantity of it, comparatively simple, consisting of the oxidation by plants and animals of organic compounds—the process known as respiration—resulting in the formation of carbon-dioxide or carbonic acid gas, which is again assimilated by the green chlorophyll-containing plants. A large quantity of more or less pure carbon or carbon in organic combination is also oxidised to carbon dioxide in a more rapid manner by the burning of these substances—coals, wood, etc. But a considerable quantity of carbon goes through a great many more stages during its circulation. This is the carbon, which, during the decay or fermentation of organic substances, undergoes a series of decompositions resembling those which the nitrogenous substances undergo during putrefaction. These decompositions are largely carried out by bacteria, but also to a considerable extent by higher fungi, for instance, the yeasts which split up sugar under the formation of carbon dioxide and alcohol.

The life and activity of micro-organisms, and particularly of bacteria, is thus seen to be an essential factor in keeping the world's food supply in order. Without the aid of these humble beings life, both animal and vegetable, would be an impossibility, at least in the form in which we know it. At the same time they carry out another important function, viz., that of—so to speak—keeping the surface of the world clean. It is through their activity that the dead bodies of plants and animals are decomposed, and the elements of which they were

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built up brought into forms in which they can be used for new life.

The technical importance of micro-organisms is very considerable. In a large number of industries their influence is certainly not a desirable one, and if they are not properly guarded against, they may cause considerable inconvenience and loss. This is, for instance, the case in the manufacture of sugar and starch, in brewing, in preserve making, in the making of cheese and butter, and so on. But in the case of some of these and several other industries, we find that the process of manufacture more or less depends upon, or even consists of a development of particular micro-organisms. Thus the milk or cream used in the making of butter, cheese, or margarine is made sour by the addition of pure cultures of specially selected types of lactic acid bacteria, to the development of which the flavour is largely due. The raising of the dough in bread-making, the fermentation of wine and beer and of the wash for distillation are all brought about by the addition of yeast, the microscopic plant described in the beginning of this paper. The green colour of the interior of Stilton and other varieties of cheese is due to a development of another fungus mentioned to-night —the penicillium. In the preparation of flax and hemp, and in the old bark-tanning, bacteria play an essential part.

With regard to the direct influence which micro-organisms, and more especially bacteria, may exercise upon the health of human beings by their development in or on our bodies, the fact that is most prominent in everybody's mind is undoubtedly that numerous and serious cases of illness and death are caused in this manner. But it should not be forgotten that after all the pathogenic bacteria are only very few, as compared with the endless number of bacteria surrounding us, and that we are often aided in repelling the attacks of the disease-bringing bacteria by the presence of other and harmless species. This is particularly the case in the alimentary canal, which, as a natural result of the conditions existing there, is the scene of vigorous bacterial development. Through their competition these organisms keep each

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other in check and apparently establish a kind of equilibrium. In order to show that even in our bodies bacteria may be useful, it may be mentioned that lactic acid bacteria distributed in milk are often used in medicine in combating certain intestinal troubles, and that it has been suggested by more than one authority that we possess in these bacteria an excellent preservative of life and health, and that the treatment could be advantageously adopted by everybody no matter whether he was ill or not.

Micro-organisms have got rather a bad reputation being in the minds of most people associated with disease and trouble of all kinds. It has been my desire to show you that this conception is not in accordance with actual facts, and that although a few bacteria may be dangerous and troublesome enough, the majority of them are not, and, taken as a class, the micro-organisms are of the profoundest importance to the human race.

21st January 1908.

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VI.

SOME OF THE DIFFICULTIES OF AN ASSURANCE MEDICAL OFFICER,

BY

G. LOVELL GULLAND, M.D., F.R.C.P.E.

MR PRESIDENT AND GENTLEMEN,—In going over the volumes of your Transactions, I found that several of the subjects on which I should have liked to speak to you had already been discussed before the Society, so that they were barred to me. There are not many points on which we meet on common ground, and I concluded that it might be interesting to you if, instead of a severely scientific paper, I were to chat with you about some of the difficulties and trials which I have encountered in a fairly long experience of insurance work, and which I believe are commonly felt in the profession. I am the more inclined to do this because some of the difficulties are in your power to remedy, while for the others I desire your sympathy.

You know the difficulty there often is in getting a man to propose—I am told that ladies also find this a difficulty, but it is usually after that little formality has been gone through that this trouble comes in—but after you have got a proposal out of him there comes next the persuading him to submit to medical examination. He has been

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dazzled by your special scheme, with bonuses coming in every half-year, and premiums automatically paying themselves after five years, but when he has to face the doctor he realises that he has a cold, that his grandmother died of phthisis, that he smokes or drinks rather too much, or he fears to learn that certain vague symptoms he has noticed are due to diabetes or heart disease.

Another difficulty that an examiner has is that proposers often don't realise that appointments made with him are meant to be kept, like other business engagements. As one gets older one has less trouble in this way, but in former years one found proposers making appointments usually at odd hours to suit themselves, and not only not appearing at the time appointed, but sending no notice of their inability to do so.

The most annoying experience of the kind that I ever had was once a good many years ago. An agent told me that he could only get the man to submit to medical examination if it were done at his own house on a certain Sunday at 1 o'clock. The time was in summer, and I had intended spending the Sunday out of town myself, but in those days individual guineas were a matter of serious moment and I decided to oblige the agent. I went to the proposer's house at 1 o'clock (of course it was far out in the suburbs) and was met at the door by a smiling maid who informed me that Mr So-and-so had gone to spend the week-end at Lanark! As I went home I composed imaginary letters to the proposer and to the agent—which, it is needless to say, were never written. That, of course, is an extreme case, but similar annoyances are not infrequent.

Having got your proposer into your consulting room, the next thing to do is to ask his attention to a long series of questions. Now, I have examined, at one time and another, for many offices, and I think that many proposal forms err on the side of asking too much. Certainly many offices ask too much clerical work from the doctor. It is of course very nice for the company to know as much as possible about the proposer, but it is rather hard upon the doctor, who probably has other patients waiting, to have to spend thirty or forty minutes in filling in details, many of which are not medical, and could

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quite well be ascertained by the agent. And if the doctor is in a hurry, there is no doubt whatever that the insistence on these clerical details may possibly lead to haste in the more important medical part of the examination. It is probably impossible to secure unanimity, but I am pretty certain that the companies would find it to their interest to adopt a uniform medical report form. In an ideal form, stress would be laid upon essentials, and it should be left very much to the doctor himself to investigate special points in the case. No amount of minuteness in the printed forms will guard an office against the slips or mistakes of a slovenly or ignorant examiner. I have often wondered when going through a whole series of reports at head offices why companies do not insist on a photograph of the proposer. Some men, while giving you all the facts for which they are asked, make the reports so absolutely colourless that it is quite impossible to form any idea of the case, and this especially when it is at all doubtful; and a photograph would in many cases remove some of the difficulties.

When one comes to discuss family history one is constantly struck by the ignorance which people display, both as to the age of their relatives and the age at which they died, and also by their ideas about their state of health or causes of death. I do not think that proposers very often intend to deceive, but one sometime finds that a sister is described as being a little nervous, and when one pushes one's questions further one may ascertain that she is a hopeless neurasthenic, or perhaps may even be in an asylum. The frequency too with which one is assured that though the mother and a brother died of phthisis, consumption is not a disease of the family, but was acquired in both cases in some extraneous fashion, is probably partly a testimony to our inherent optimism. One sometimes gets very curious experiences in this way. Some years ago I happened to have looked in at my house in the course of the forenoon; the telephone rang, and I found the call was from an Insurance Office with which I was not connected, saying that they had an urgent case, that they could not get in touch with their own medical officer, and asking if I would see him. The gentleman came along,

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the name was a common one, and I did not at first notice the address on his proposal form; he told me that one sister had died of pneumonia, and that another sister was suffering from a slight cold at the time. Something he said made me think of his address, and I found to my surprise that his family was one about whose members I was frequently consulted, though I had never seen him before. The sister had died of phthisis of a very acute form, and the other sister, who was supposed to have a cold, was also suffering from phthisis, from which she died soon after. Had he fallen into the hands of any other examiner this would almost certainly have been missed, and he would have been passed at level rates, as his personal history and examination were satisfactory. I have not the slightest doubt that one is constantly misled about family histories in similar ways. In discussing the illnesses from which the proposer himself has suffered I am often inclined to anathematise the habit which we doctors have of making as light as possible of ailments, and am forced to wish that we would either use the proper pathological terms in our talk with our patients, or that everyone were obliged to keep a list of the ailments from which he has suffered, under their proper names. For example, catarrh of the bowel may mean anything from typhoid or appendicitis to lead colic; dyspepsia, anything from a drinking bout to cancer of the stomach; and catarrh of the lungs, anything from a slight cold to phthisis or a septic pneumonia. Of course, one knows perfectly well that the rates of all companies are arranged to cover these difficulties, but it is often extremely annoying for a man who tries to do his work conscientiously to fail to get the information that he wants in order to enable him to form a just opinion.

When one comes to the actual personal examination the real difficulties of the doctor begin. There are certain facts, such as height and weight, which are easily ascertained, and of whose relative importance every man carries a sort of working idea in his head; but some facts which are asked for in many proposal papers are very often of little value. For example, the rate of the pulse. There are very few of us who could face quite unmoved such an ordeal as an insurance examination, and whose pulse would not be

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quickened by it; and it is very exceptional indeed to find that a proposer has a pulse of normal rate, so exceptional indeed, that when one finds a really slow pulse under these circumstances, one is tempted to suspect that there is something wrong. One case of the sort occurred to me just the other day, in a young man who looked well, was ruddy-cheeked, but who somehow did not impress me as being robust. He had a pulse under 60, and when I came to examine the urine, I was not surprised to find sugar present, though I should have been more inclined to expect albumin. The actual physical examination of the heart is full of pitfalls. When one is young, one is apt to miss a great deal. When one gets older, one knows too much about the slighter abnormalities, and is perhaps rather apt to magnify their importance. For example, if one finds a systolic murmur at the base of the heart in a young man, one is often in doubt whether it is due to too much athletics, to mere excitement, or to actual disease, and it is precisely in cases where there is difficulty in deciding this that all the usual rules break down. Such things, too, as reduplication of the first sound may mean almost nothing, or may mean a very great deal. And when one examines the heart for the first time, not from the point of view of treatment, but from the point of view of gauging the real state of the heart muscle and its power of standing the strain of life, one's examination often has to be very searching if one is to get a correct idea of the probabilities.

But there is probably no part of the body in regard to which mistakes are more often made than the lungs, at least if one may judge from what one sees in hospital work. So long as there is no great amount of dulness and no obvious crepitations a chest is apt to be pronounced sound; but the more one sees of chests, the more one realises that there are very few which come up to the normal standard. It is one of the commonplaces of medical knowledge that in a very high percentage of *post mortem* examinations healed tubercle of the lungs is found—tubercle of which neither the patient nor his medical attendant had ever had any knowledge. But this tubercular infection, which may have occurred in early youth, often leaves traces in the shape of the chest, and especially

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at the apices of the lungs. In the majority of insurance examinations such traces are probably overlooked or not regarded as important, but nowadays a proposer coming into the hands of an acute examiner may be stopped by his discovery of slight dulness at one or both apices. A friend of mine many years ago on the eve of his marriage was rejected by an Insurance Company because the doctor had found some dulness at one of his apices. Now, more than twenty years after, and when the wife whom he was then about to marry has been dead for some time, he is still leading a busy life with his lungs in exactly the condition in which they then were; and curiously enough, the man who examined him is himself suffering from chronic lung mischief. That peculiar irony of fate is well exemplified too by Sir Henry Littlejohn. That distinguished gentleman not long ago put it on record that in his youth he had been examined for insurance by three well-known physicians, who had all rejected him. With a touch of his irresistible humour, Sir Henry then stopped, and said, "I had the melancholy satisfaction of following each of these gentlemen in turn to his grave." I know that there is no point about which the conscientious doctor is more in difficulty than whether to regard slight deviations from the normal at the apices of the lungs as due to tubercle or not; and, indeed, to answer the question correctly, one must have the power of taking a large view of the man himself, of his surroundings and mode of living, and of his personal history; and it is only after one has had great experience that one can solve that problem with anything approaching to accuracy. The further problem, whether definite signs in the lungs are to be regarded as due to active or latent tubercle, is very important in practice, but of little moment in insurance work, as such cases are almost always refused. It is very rarely, indeed, that a man with active tubercular mischief applies for insurance, even though he is not conscious that his lungs are at fault. He almost always feels out of sorts in some way, and people who feel ill very seldom subject themselves to examination. It has been very interesting to me to see how steadily Insurance Companies have refused to give up the belief in hereditary predisposition to tubercle. After the discovery of the

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tubercle bacillus there was a wave of opinion among medical men against this view. The idea was that the morbid agent of tubercle had been found, that the disease was proved to be an infectious one, and that therefore everyone might reasonably be supposed to be equally prone to it. Through all this the Companies went on charging five or seven years extra for a parent who had died of phthisis, and almost always refusing a proposer with a strong hereditary tendency especially if his weight or lung capacity were below standard. Now, the pendulum of medical opinion has come back to the same position, and I think we all realise the great importance of hereditary predisposition in this disease, as much as in gout, or insanity. We have realised, in short, that the soil is just as important as the seed.

This brings me to another of the so-called hereditary conditions about which most medical report forms put a query in some shape, and that is rheumatism. Here the medical report lags behind medical opinion. We all know perfectly well that the only form of so-called rheumatism which is really dangerous to life is acute rheumatic fever, and that most of the so-called chronic rheumatic conditions have nothing whatever to do with this; while chronic rheumatoid arthritis not only does not shorten life, but usually prolongs it, even though the usefulness and comfort of the person suffering from it are greatly interfered with.

In most report forms, as in most medical examinations, the question of the abdomen is dismissed somewhat perfunctorily. It is probably very rarely examined with anything like fulness. This is to some extent reasonable, because most abdominal conditions require a much more elaborate and more modern investigation than it is possible to give within the limit of time of an examination. They thus involve the doctor in such an expenditure of trouble, and involve probably more knowledge on his part than the Company would feel called upon to pay for. To-day, I spent the better part of an hour over a patient who came to me complaining of headache, and it was only after a very minute examination that I extracted from him the fact, which he imagined had no bearing on the matter in hand, that he had only a few months ago suffered from

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a vomiting of blood from a gastric ulcer. I concluded ultimately that his headache was entirely due to gastro-intestinal conditions. That may serve as an instance of how difficult it is to get at the truth about abdominal complaints. On the other hand, occasionally abdominal examinations are made too thoroughly, and with too fervid a zeal. Some years ago a proposer went to a colleague of mine, and mentioned that a year before he had had an attack of appendicitis. The doctor was anxious to find out whether any traces of the mischief had been left, and examined the appendix so thoroughly that he ruptured some adhesions, and the proposer that night was attacked by appendicitis so acute that for some time his life was in danger. I fancy that the next proposer who came to the same doctor with a history of some previous abdominal complaint, would be treated decidedly more circumspectly.

Probably more surprises occur in the examination of the urine than in any other part of the medical examination. It is astounding with what frequency albumin and sugar are found in insurance applicants, in comparison with the general incidence of these in ordinary practice. With regard to albumin, I am old enough to remember the fierce controversy that raged over the existence or non-existence of functional albuminuria twenty years ago. It is, of course, quite easy, or usually quite easy, to decide whether albuminuria is functional when you have frequent opportunities of examining the patient. It is quite another matter to make up one's mind about it when you have only a single examination, and when you cannot get repeated samples to help you to decide whether the albumin is due to diet, change of posture, or to a more serious condition. Some Companies have a clause in the report requiring the medical examiner to state what tests he employed in the examination for albumin or sugar. This, I think, is a wise precaution, for if heat alone be used for albumin, traces are very often missed, and these traces may be very important, especially in people after middle life. In my experience, if the doctor is aware of the possible fallacies which may occur with it, the cold nitric acid test is by far the most reliable. With this the fallacies are easily kept in mind, and very easily excluded. It is a sufficiently delicate test,

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if it is employed by the contact method, and yet not too delicate. An appreciable quantity of albumin in a person after middle life should, of course, exclude the life from insurance, except under special circumstances. But I do not know that it is sufficiently realised among medical examiners that there are many cases of cirrhotic Bright in which from first to last no albumin at all, or only the merest occasional trace, is found in the urine. Unless an examiner is on the look-out for the condition of heart and arteries which accompanies this disease, mistakes are very apt to occur. It is, of course, specially in young people, however, that the difficulty with regard to functional albuminuria occurs, and the points which have to be borne in mind in coming to a conclusion about it are such as the condition of heart and arteries; a previous history of scarlet fever, or some other disease which might cause inflammatory mischief of the kidneys; the presence of any gastric or intestinal condition which, in my experience, very often cause albuminuria which is not likely to pass into Bright's disease if the gastric condition be treated. And further, on the examination of the deposit of the urine microscopically one sometimes finds in the presence of crystals of oxalate of lime a sufficient explanation; sometimes the presence of pus may point to some urethral condition. Two cases occur to me as being much in point in this connection. One was that of a young man who had been for a year in Egypt. He came to be examined for insurance, and I was horrified, as I knew him intimately, to find a large quantity of albumin in the urine. I could not understand it, as he gave no other evidence of Bright's disease, had nothing in his history to indicate it, and was past the age at which functional albuminuria is likely, and I was greatly interested when I examined the deposit microscopically to find the ova of the bilharzia—a parasite which is to be found in the walls of the bladder, and which often gives rise to albuminuria and hæmaturia. I got him to return next day and give me another specimen, which, equally to my surprise, was absolutely free from albumin and from the ova. It was evidently an infection at an early stage, so that the ova only occasionally escaped into the urine; I followed up the case, and found that the

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amount of albumin which I had found on the first occasion was quite exceptional. Here, of course, the microscopic examination saved the proposer from the certainty of rejection, and made it possible for the Company to take him on at an extra. Had he come to me on the second day instead of the first one he would have been passed unhesitatingly. I have always regarded that as a very lucky chance, from my point of view, though the proposer probably regarded it in another light. The second case shows how careful one should be in assuming that a patient's albuminuria is functional. When I was private assistant to a late authority on Bright's disease, one of his pet cases of functional albuminuria, which figured largely in his book on the subject, came one day when the Professor was away, and I was seeing his patients. I took the opportunity of asking him whether he had ever had a urethral discharge. "Yes," he said, "certainly; about two years ago." "Well," I said, "that is the cause of your functional albuminuria. Did you never tell the Professor about it?" "No," he said, "he never asked me." I fancy a good many cases of functional albuminuria, if they were fully investigated, might be traced to the same cause.

With regard to sugar, the difficulty is a very great one, inasmuch as it is not one which can be cleared up by history, or even always by further examination of the proposer. It depends a good deal on the agent which is used for the investigation, and on the fact that other substances reduce the Fehling's solution besides sugar. A small trace of sugar will give almost exactly the same results with Fehling's solution as an excess of uric acid, or the presence of certain other bodies in the urine. Sometimes it is quite easy to exclude these, if you know how to use your Fehling's for that purpose. Sometimes it is extremely difficult, and I have over and over again had to follow up cases which have been rejected for insurance, and who came to me to be treated for diabetes, without their ever having had sugar in the urine at all, so far as I could find out. That is one source of error. The other source is that there are certain people who, after a meal containing a large quantity of sugar, will pass sugar in the

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urine for some hours afterwards. I saw a case of this sort not long ago in a friend of mine who came to me in a great state of agitation because sugar had been found in his urine at an insurance examination. I examined, I think, a dozen samples in the next ten days, while he remained upon ordinary diet, and I never found sugar again. I ascertained on inquiry that his urine had been examined soon after afternoon tea, with a lot of sweet cakes, and four lumps of sugar in each cup of tea. Besides these cases, there are others in whom there are slight occasional traces of sugar without any impairment of the general health, and it is often a matter of the utmost difficulty to decide whether these are to be regarded as being slight cases of diabetes or not. The trouble is that one never gets the opportunity of keeping them under observation long enough. The condition goes on like this, let us say, for six months, and the patients get tired of sending you samples of urine, you get tired of examining them, and they drift out of sight; so that one never learns whether in after years they become cases of true diabetes or not.

There is one query which appears in all report forms which is really useless and unnecessary, and that is, as to the specific gravity of the urine. From a single sample taken casually at any time of the day no reliable conclusion whatever can be drawn. I have seen cases of diabetes, the specific gravity of whose urine was never above 1024. I saw a case of diabetes the other day with a specific gravity of 1015 to 1017: and on the other hand a low specific gravity is so often due to other causes than failure of the kidneys to excrete a sufficient amount of solids, that it gives one no real help. And if the quantity of urine be small, as it often is, the necessity of determining the specific gravity involves one in troublesome processes of dilution and calculation, which are not worth while. That reminds me it would be a God-send to examiners if agents would always tell proposers that their urine will be examined. For a neglect of this precaution often makes a second visit necessary, or makes it possible for the proposer to substitute another urine for his own, if he is at all doubtful of it.

There is another point in regard to which conscientious

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examiners are very often in difficulty, and that is, the question of whether they should or should not tell the proposer if they find something wrong. Some companies expressly state on their forms that no information of any kind is to be given to the proposer. Others are not so careful. The proposer almost always wants to know whether he is "all right"; but I personally make it a rule never to give any information, because one realises that a company may find it desirable to refuse an applicant, on grounds other than medical, of various descriptions, and if one tells a proposer there is nothing the matter with him, and he is thereafter rejected by the company, he is apt to turn round on them, quote the doctor, and make things uncomfortable for somebody. But when examining other doctors, or one's own personal friends, the temptation to tell them if one finds anything wrong is very great, because the defect which one finds may be something temporary, but yet of such a nature that an office would reject or load a candidate who has it. And as you all know, it is a serious obstacle to a man's insurance in future if he has been rejected or loaded by another office. One often feels inclined to tell the man under such circumstances, in order that he may withdraw his proposal in time. I think the practice of offices varies a good deal in this matter. Some like to have everything pass through their books, others are quite willing to have such proposals withdrawn, but it seems to me that it would be desirable in the interests of the examiner, at any rate, to have some definite rule from all the offices.

When all the examination is finished the medical examiner has still to give his opinion with regard to the risk, and the practice of different offices varies in the most amusing way in regard to the evident weight which they attach to the opinion of the examiner. Some offices, notably a few of the American ones, do not ask the examiner to express any opinion whatever as to the suitability of the life. They apparently consider that if they have the naked facts their principal medical man is better able to judge than local examiners. In this country more weight is attached to the local opinion, and it may be that there is a very good reason for this, for the standard

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of medical education is much higher in this country than in the States, especially in the lower ranks of the profession; though the best American doctors are second to none. I must say I think the offices on this side of the water are much wiser. For one thing there is probably no country in the world in which the doctors are so well educated as in Scotland, nor in which the standard of professional responsibility and duty is so high. Again, the man who has seen the proposer can take account of a thousand little points which cannot be put upon paper. It is not easy, without a long-worded description, to differentiate between the ruddy face of an alcoholic and the rosy cheeks of a man in good health and training, for example, and many other things will occur to you at once as capable of being noted in this way. The opinion which a man will give as to a case must, of course, to a certain extent, depend upon his medical training. The better it has been initially, and the better the use he has made of it in acquiring experience, the more sound is his opinion likely to be. But quite apart from that, we, all of us, have a mental bias either towards hopefulness or the reverse. You will seldom get two men of marked individuality to express just the same opinion about a doubtful case, and there are very few of us who are so colourless in this way as to be mere thinking machines. If I were in the position of a company selecting an examining officer I should certainly choose the optimist. For, after all, it is the desire of the companies to do business, and it is often wise, of course, to take doubtful lives if they have a good connection, or can in other ways be useful to the office. I think, indeed from every point of view, that the optimistic temperament is the better one for a doctor. It certainly is better from the point of view of ordinary practice. I have often been amused too by the different ways in which men will express their opinion. A young examiner is very apt to give a long reasoned opinion, partly in order to show that he knows what he is talking about, and partly in order to guard himself against future possibilities. An older man is much more inclined to say simply "Yea" or "Nay." He has become accustomed to responsibility and is willing to take it. We may assume that the general result is satisfactory to the offices, as most

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of them seem to be doing fairly well. But of course occasional mistakes must occur, partly because the information which the examiner or the company obtains is insufficient, or because of the inevitable chances of life. I remember one instance which annoyed me greatly at the time, and I expect annoyed the office to whose client it occurred still more. A man whose medical attendant I was, refused to be examined, for an English office, by anyone but myself—he was an exceedingly shy man. He was quite a good life, but had a family history of malignant disease for which he was loaded to a slight extent. His proposal was accepted; and a week after all the formalities had been completed he was attacked by erysipelas of the face and head, and died in a few days. The office paid up, but I don't think they were pleased, though they probably used the case as an advertisement in pushing other business. I was not pleased, the poor fellow who died was presumably not pleased either, and his family certainly missed more in losing him than was made up to them by the £500 which his policy brought them. That is part of the sad side of insurance work; the humorous side is illustrated by an old gentleman whom I knew who had in early life insured himself on a whole life policy without profits. He must have paid for his insurance money over and over again, for he lived to be ninety-five, and was hale and hearty until within a few weeks of his death. He was careful, to say the least of it, about money, and constantly importuned his company to let him off the premiums,—in vain. This preyed on his mind so much that he used to take to his bed regularly when the premium became due, and I think his natural disinclination to dying was largely tempered by the knowledge that at last the company would have to pay.

There is one suggestion that I wish to make, and that is, that doctors who have examined a proposer for insurance should always be informed of the result of the proposal—whether it is accepted, whether the life is loaded, or whether it is declined. Of course a doctor can sometimes get these particulars from the agent; but we are, most of us, busy men, and it is difficult always to remember to find out about cases. And there is no doubt whatever that it would improve a doctor's insurance experience if he were

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given this information as a matter of routine. It would be perfectly easy to do it at the time his fee for examination is sent to him. Probably in the case of physicians of experience, who are constantly examining insurance cases, and who have large hospital and other experience, it is not necessary, but the great majority of insurance cases are examined, not by these men, but by country doctors and men in ordinary practice, and it is to these men that the view the companies take of cases would be specially valuable.

In concluding I must apologise for the rambling nature of this paper. I have tried both to point the moral, and, as far as in me lay, to adorn the tale. We doctors all like insurance work, principally I think because it is interesting. One never knows what is going to turn up in a case, and you must remember that it is the interesting things that happen in his daily work that keep a doctor pegging at it, hard, unremunerative, often thankless though it may be. We do our best for you, but we all make mistakes sometimes. When we do, remember that we are doctors, not prophets, and that we are not infallible, and shall never become so.

18*th February* 1908.

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VII.

VALUATIONS UNDER THE EMPLOYERS' LIABILITY INSURANCE COMPANIES ACT, 1907,

BY

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NOTE.—Readers are referred to the Act itself (price ½d.), and to the Order in Council (Statutory Rules and Orders, 1907, No. 838, price 1½d.), which may be purchased directly or through any Bookseller from Messrs Oliver & Boyd, Tweeddale Court, Edinburgh.

WITHIN the last quarter of a century there has been a remarkable development in the theory of liability on the part of employers for accidents to their employees out of and in the course of their occupation, and the passing of the Workmen's Compensation Act, 1906, has now extended such liability to practically all employments involving manual or other labour. The liability for compensation is so serious in pecuniary amount that most employers are wise enough to insure against the risk, and naturally the growth of this form of Insurance has been very rapid also. The Houses of Parliament have had this practical necessity of Insurance in view, and have decided that it is their duty to see that the institutions with which such Insurances are effected are really solid and

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stable, otherwise the compensation which the Act provides for injured workmen and their dependants might not be forthcoming, should the Insurance Company be financially unsound, and the employer himself be unable to pay.

Government supervision of insurance business is, as you are aware, not a new thing. The Life Insurance Companies Acts have been in force for some thirty-seven years now, and it was to be expected that Parliament should think of them in connection with Employers' Liability Insurance. Now, whether the Life Companies Acts are capable of improvement or not, they have certainly served the purpose of securing the safety of the Life Funds contributed by the insuring public. The United States and many other Foreign Countries, and some of our own Colonies, have adopted Insurance laws which are more stringent than the British Acts, involving, as they do, not only a much closer scrutiny of the accounts of the Insurance Companies concerned, but also actual regulation of the working of the business by rules laid down for observance. You will remember that there was recently an inquiry as to how far our British Acts might be improved, but the general Insurance opinion was that our Acts have worked very well indeed, and that practically no change should be made upon them.

Two salient features of the Life Companies Acts are (1) that no Company can commence business without depositing £20,000 with the Accountant General of the Court of Chancery, and (2) that Annual Accounts showing the Life business separately from other classes of transactions, together with periodical Valuation Statements, have to be deposited with the Board of Trade. These Accounts and Statements are published in a Blue Book now becoming rather bulky, and they give fairly full information as to the financial working and resources of Life Companies. After the deposit of £20,000 has been made, and the Company has started business, this publicity is the great safeguard provided by these Acts for the insuring public, and "Publicity is the force which beyond all others keeps the atmosphere of a country sweet and pure."

Although Employers' Liability Insurance differs very much from Life Insurance, Parliament came to the con-

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clusion that the Life Companies Acts might, with suitable modifications, be made to apply to it. Accordingly, the Employers' Liability Insurance Companies Act, 1907, was passed, applying the provisions of the Life Assurance Companies Acts, subject to the necessary adaptations and modifications, to Companies carrying on E.L. business. There are certain rather interesting exceptions under the Act, viz.:—Marine Insurance Companies, Mutual Societies, and Underwriters, but it would be outside the scope of this paper were I to offer any remarks on this subject.

The Act in itself does not actually make the necessary adaptations and modifications, nor does it fix the date on which it was to come into force. This was done by an Order in Council issued in the month of November last, the date fixed for the Act coming into force being 1st January 1908. I suppose that most of you will know that the Board of Trade invited the opinions and suggestions of various representative Insurance bodies before the Order was finally drawn up and issued, and that they have given effect to a good many of the considerations urged upon them. Some Insurance men no doubt still think improvements could be made, but time and experience will provide the best arguments for any further modifications.

The Order, after dealing with the deposit of £20,000, with which we are not immediately concerned at the present time, goes on to require that accounts shall be kept in respect of the E.L. Department of each Company separate from the other Departments, if any, and that a separate Fund shall be formed out of the receipts in respect of E.L. contracts, which Fund shall be the security for the holders of these policies just in the same way as the Life Funds of a Company are earmarked for the security of its Life contracts.

Then the Order sets out that, at the end of its financial year, each Company shall prepare statements of its Revenue Account and its Balance Sheet in the forms prescribed in the first four of the Schedules annexed to it, and deposit copies of these with the Board of Trade. It will be necessary to consider these Schedules in connection with the Valuations, which are the more immediate subject of this paper, but it may be as well to run over the remaining

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requirements under the Order before entering into any details as to Accounts or Valuations. Besides the Revenue Account and Balance Sheet, Statements of the estimated liabilities in the E.L. Department or, in other words, Valuation Statements, are to be furnished each year in the forms set out in the fifth and sixth Schedules to the Order. You will notice that all these Statements are required annually, while Life Valuation Statements are required only at the end of each valuation period of a Company—usually five years.

Then regulations are laid down for the signing of the Statements by the Chairman and two Directors of the Company, and by the principal Officer managing the E.L. business, and by the Managing Director of the Company, if it has one, and the Actuary, and for the Statements being printed and furnished on application to shareholders and policyholders of the Company.

It is as well to point out that a "Policyholder" for the purposes of the Employers' Liability Insurance Companies Act is, save as otherwise expressly provided, the person who for the time being is the legal holder of the policy for securing the contract with the Company and, where any sum is due or weekly payment payable under any policy, includes the person to whom the sum is due or the weekly payment payable. Thus, you will see "Policyholder" includes not only the employer who holds the policy and has paid the premium, but also an injured workman or the dependants of a workman whose death constitutes a claim.

The Order also contains a number of regulations relating to amalgamation or winding-up of Companies, or transference of E.L. business from one Company to another, and in connection with this subject certain Valuations of liabilities under the policies may require to be made. I do not propose to deal with these just now, but shall go on at once to the Accounts and Valuation Statements which have to be made at the end of each year.

The first two Schedules annexed to the Order contain forms for the Revenue Accounts and the Balance Sheets of Companies doing E.L. business only, while, if other business also is transacted, the Third and Fourth Schedules

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show the forms applicable. Now, if you look at the Schedules you will see the First and Third correspond very closely to each other, as also the Second and Fourth. Indeed, for our purpose to-night, they are one and the same, and in actual practice, I suppose, the First and Second will hardly ever be used, as every Company doing E.L. business does other business also, so far as I am aware. However, for convenience sake, I will describe the First and Second Schedules, and then very shortly point out what additional information is required in the Third and Fourth.

Commencing with the Revenue Account in the First Schedule, we have on the left-hand side, at the top,

Amount of Funds at the beginning of the year divided under the following heads:—

Reserve for unexpired risks.

Total estimated liability in respect of outstanding claims.

Reserve for contingencies, if any.

These three items added together form the Funds specially earmarked for the E.L. business at the beginning of the year. Then follows:—

Premiums, after deduction of re-insurance premiums;

Interest and dividends; and

Other receipts (accounts to be specified).

Adding all these together, we get on the left-hand side the total sums at the disposal of the Office for the year in question; and the right-hand side of the account shows how these sums are disposed of during the year, and what is left at the end of the year. On the other side of the account we have—

Payments under policies, including medical and legal expenses in connection therewith, after deduction of sums reinsured.

Commission.

Expenses of management.

Dividends and bonuses to shareholders, if any.

Other payments (accounts to be specified).

Please notice that the "Claims" item is a cash one, and includes only the actual payments which have been made during the year. It is therefore somewhat different from what we are accustomed to in other accounts where

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"Claims" usually includes an estimate for claims which have arisen, but which have not been paid. However, you will see the reason for this when we come to the final items of this side of the account and the Valuation Statements.

Another point which you will notice in connection with the claims is that medical and legal expenses in connection therewith are included. The intention is apparently to find out what is the actual cost of claims apart from what we may call the ordinary Office expenses of dealing with them. Now, medical and legal expenses incurred in settling E.L. claims are hardly on the same footing as the ordinary working expenses of the Claims Department of an Office, but are really part of the claims.

The above items show what has been paid out of the account during the year, and we now come to the closing item, viz., Amount of the Funds at the end of the year, as per Second Schedule—shown under the following heads:—

Reserve for unexpired risks, as per Fifth Schedule.

Total estimated liability in respect of outstanding claims, as per Sixth Schedule.

Reserve for contingencies (if any).

You will now see why only actual payments are put in the item of claims, as the Reserves are meant to provide for all claims not paid and done with.

The Reserves items at the end of one year will be carried forward and appear as the first three items on the left-hand side of the Revenue Account for the following year, so that continuous Accounts of the Department will be furnished from 1908, and no sum of money can be received or paid without being shown in the Accounts.

You will please particularly notice how the other Schedules fit into the First Schedule. You have in the First Schedule at the end of the year:—

Reserve for unexpired risks (got from the Fifth Schedule).

Estimated liability for outstanding claims (got from the Sixth Schedule).

While the E.L. Fund at the end of the year appears in the Balance Sheet in the Second Schedule.

The Second Schedule is simply a Balance Sheet as at the end of each year, and it does not differ from an

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ordinary Balance Sheet, except that there must be an entry in it amongst the Liabilities on the left-hand side as follows:—

Employers' Liability Insurance Fund, as per First Schedule.

I pointed out a little time ago that the Third and Fourth Schedules are practically the same as the First and Second Schedules, so far as our purpose to-night is concerned, and now that I have briefly described the First and Second Schedules, you will be able to appreciate the small differences. In the case of a Company doing other business as well as E.L., the First Schedule simply becomes Account No. 1 of the Third Schedule, while the other Accounts deal with the other classes of business carried on. Similarly the Fourth Schedule is just the Second Schedule, with the addition of items relating to Fire, Life. and other classes of business. If a Company doing a mixed business prefers to do so, it is allowed to give a separate Balance Sheet for the E.L. Department in the form shown in the Second Schedule, while the other Departments are dealt with in a general Balance Sheet. You will remember that the Accident Offices Committee recommend that such a separate Balance Sheet be not given, and uniformity of practice is very desirable.

It is, however, the Fifth and Sixth Schedules of the Order with which we have to deal more particularly, and it may be said shortly that the Fifth Schedule deals with Estimated Liability under unexpired risks, and does not touch claims which have actually arisen, while the Sixth Schedule deals with Estimated Liability under claims which have actually arisen.

The Fifth Schedule consists of a statement with four columns. The first column classifies the transactions as follows:—

Unexpired Risks—

(*a*) Running one year or less from date of policy;

(*b*) Running more than one year from date of policy.

And under (*b*) the facts are to be stated separately, according to the duration covered by each premium.

Of course, by far the greater number of transactions will come under the first head, but there may be a few

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contracts where the premium covers more than a year's risk, or where the premium may be paid up for two or more years in advance. These two latter classes of transactions will naturally be comparatively few in number, as Tariff Companies, as you are aware, are debarred from issuing policies running for more than fifteen months. At first sight one may be inclined to question whether it was really necessary to require a separate classification. It is not likely, so far as we can see at present, that contracts will be entered into to run for any very long time, and the difference made by the inclusion of a few special contracts with the others would not amount to very much. Still there may be a few odd policies running which were effected before this Tariff regulation was issued, and there will be some foreign business and the Non-Tariff offices to be legislated for. The classification according to the period covered by the premium may mean quite a number of comparatively trifling entries, and I cannot say that I see sufficient justification for much detailed separation of the business.

The second column in the statement asks for the Amount of Premiums, and this is simple enough, as the figures to be entered will be simply the amount of the year's premiums on the yearly or shorter policies, and the amount of the single or commuted premiums for the policies of longer duration. There is just one difficulty about these latter premiums, but it will be more convenient to refer to it also later on.

The third and fourth columns are closely related to each other, as the Companies will, in the third column, state the amount of reserves made for unexpired risks according to the various durations of transactions, as above explained; and in the fourth column, the percentage which such reserves bear to the respective premiums. The Order lays down no rule whatever as to the amount of such reserve or the percentage. It simply asks the Companies to state the amounts and the percentages, and leaves it to those interested to decide whether these are sufficient.

The only requirement laid down is that the precise method adopted in the computation of the reserve must be fully and definitely stated.

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Now, if a Company wished to be exceedingly accurate, it would have (1) to ascertain how long each policy had still to run, and (2) to decide what claims may be expected under it. In practice, however, it is usual to assume that transactions running for a year, or for a shorter term, have a certain average time still to run at the end of the financial year, and each Company decides for itself from its knowledge of its own business what is that average period.

In the case of yearly E.L. policies, we shall probably be safe enough just now in saying that there will be some seven to eight months of the risk still to run as at 31st December. Although the Workmen's Compensation Act came into force at 1st July last, and a very great many policies were effected just about that date, yet I think each Company's experience will show that, all through July and August, and even into September, a considerable number of policies were issued, while there is a certain amount of new business always being transacted. Also some old Insured paid an additional sum, as from 1st July, to make their old policies carry the liability under the new Act until the renewal dates came round. Again, many large firms have arranged that the renewal date of their E.L. policies shall be the dates on which they make up their annual accounts. This has very obvious conveniences, as the wages statements are made up to that date. Thus renewal dates may be fairly evenly spread over the year, and it is not easy to arrive at any definite opinion by *a priori* reasoning.

Most Offices issued a great many Domestic Servants policies early in 1907, and, if we judged by the interest which the public took in these policies, we should say that the bulk of the business was represented by such Insurances. When we look at the premium results, however, these great number of transactions produced not a very great deal of cash, and therefore these early policies need not be laid much stress on.

You will thus see that, although the Act came into force as on 1st July 1907, all policies do not date from then, and the tendency will, I think, be for this date to become less and less the principal renewal date, and it may

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be that the Scottish and English Term days will, in the course of time, become the dates for renewal of E.L. policies as well as of Fire policies. If I could have spared the time I should have liked to have made some inquiry into the extent E.L. renewal premiums are spread over the year, but I found it impossible. Consequently the opinions I have expressed are only first impressions, and are therefore open to correction.

I have not touched upon the effect which Short Term policies may have on the average unexpired risk, but their influence must not be forgotten. The late Mr Deuchar, in one of the first papers read to this Society, gave an explanation of how to arrive at the proper reserves for unexpired risks in Fire business, and his method can be applied to E.L. business also, and I would recommend you to give some study to his paper.

Again, if Companies were strictly correct in estimating the liability under their existing contracts, they would need to take into account their experience of each risk since it came on their books, and the corresponding prospect of further claims during the remainder of the currency of the policy. There would no doubt be many risks which had turned out decidedly badly, but, on the other hand, there would be probably many which show a favourable experience, and, putting the one against the other, it may be hoped that, in the case of any Company which carefully selects its business, the premium received is not an unfair measure of the risk covered. Of course, if this was not the case when the policy was issued, then the premium was not properly fixed. Accordingly we come to the conclusion that, if the risk be evenly spread over the year, a fair reserve for unexpired risks is a proportion of the premium income corresponding to the average time each policy is assumed still to have to run. The reservation I have made may be of some importance or it may not. Accidents may be more frequent in some employments in winter, owing to cold and poor light for instance. Although we may, for the present, ignore this factor in practice, yet I hope that someone will go into the subject before long and give us some authoritative data.

We have also to keep in mind that the premium which

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a Company charges is calculated to meet not only claims and the legal and medical expenses connected therewith, but also the ordinary working expenses of the Company, while its shareholders may also expect a small portion by way of dividend. Each Company has its own experience of how much of its premiums goes to meet claims and relative expenses, and how much is spent in the obtaining of the business and its renewal. Commission, which is one of the heaviest expenses, will have been paid on these current policies, and also the expenses of the collection of the premium. There will still be a proportion of the general working expenses of the Company and some profit for its shareholders to be provided for in the reserve to be made, but roughly from 20 per cent. to 30 per cent. of the annual premium may be reckoned upon as having been already disbursed. Accordingly, some 70 per cent. to 80 per cent. only of the premium is available, even at the outset, to meet claims and their relative expenses and to provide a share of the running expenses of the Company and for profit. If we suppose that each policy has still some seven or eight months to run at the close of the financial year, we come to the conclusion that about 40 per cent. to 50 per cent. of the gross premiums should be held by the Company in respect of unexpired risks, and if short term contracts are at all numerous, the lower figure should not be far wrong. 40 per cent. of the Premium Income (including, perhaps, quite a number of long term contracts) seems to be a usual reserve among Fire Companies for unexpired risk, and it may be a sufficient reserve in E.L. business also, though there are differences between the two kinds of Insurance which must not be overlooked.

The above remarks apply to policies for a year or for a shorter term, but, of course, when we deal with single premiums which cover more than a year, or commuted premiums for a number of years, a much larger percentage than 40 per cent. may be required. No general rule is possible here, and each duration must be dealt with separately according to the time which the policy has still to run, but the principle described above is applicable for these cases also.

The Schedule is not explicit as to stating the amount

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of the single or commuted premiums on policies which may run for more than one year. The amount of a single premium will no doubt be included for the year in which it is receivable, but suppose the policy runs over the whole of the succeeding year and into a third year, what then? The policy will be in force at the close of the second business year and it can hardly be intended that the amount of the single premium should be entered in this year also, or that it shall be split up into portions applicable to each year, or that the unexpended balance at the end of one year should appear in the premium income of the next year. Still, although the premium may not be entered in whole or in part in the second column of the statement for the second year, a reserve has to be shown in the third column for the unexpired risk with the result that, in the fourth column, a percentage comparison is made between a reserve, inclusive of certain policies, and premiums which do not contain any amount relative to these policies. It follows, therefore, that the percentages in respect of these policies, which run more than one year may be quite useless and misleading. No doubt if a Company did a very considerable amount of business under such policies a fair average might be arrived at from year to year, but still it appears that the percentage of reserve to premium income so far as these policies are concerned, if not actually meaningless, should not have too much importance attached to it. Indeed I think the percentage column for the whole Schedule might have been omitted altogether, as a lower percentage in one Company may actually be a better comparative reserve than a larger percentage in another Company. No doubt the public can work out the percentages for themselves, but the fact that the Board of Trade asks for these gives them in the eyes of the public a value which may be fictitious to a considerable extent. I see one correspondent of *The Scotsman* demands that the Board of Trade shall lay down a minimum percentage, which each Company would have to reserve. Truly a little knowledge is a dangerous thing.

Probably you will have noticed the appeal before the House of Lords as to Income Tax being chargeable on

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reserves for unexpired risk. No doubt a good deal has been and can be said on either side, but the fact remains that the Board of Trade now requires a reserve to be made for unexpired risk in E.L. business, and therefore recognises the liability against which the reserve is held. It seems a little inconsistent that a sum can at one and the same time be a reserve for an acknowledged liability and at the same time be all taxable profit, but perhaps as a working rule the practice is fairly just.

Before discussing the Sixth Schedule, which deals with actual claims current, it may be just as well to consider the sort of claims we have to provide reserves for. Claims arising other than under the Workmen's Compensation Act, 1906, are all for lump sums, and the reserves necessary will consist of the sums fixed upon, either by agreement or by course of law, together with estimates for the claims not yet settled. In the latter case the head of the Claims Department must just estimate to the best of his ability what he can settle for, or what a jury are likely to allow. It is only under the Workmen's Compensation Act, 1906, that claims for weekly payments can occur, and under the Act the following cases may arise:—

(1) Claims already fatal (with or without there being dependants).
(2) Claims which are likely to prove fatal.
(3) Claims which mean temporary disablement only, whether total or partial.
(4) Claims which may mean disablement for an indefinite period, but which cannot be classed as certainly permanent.
(5) Claims which mean permanent disablement.

If we keep this classification in view, the rather complicated requirements of the Sixth Schedule with its seven sections do not impress us so much. One general observation applies to all the Sections except G, viz., that Fatal and Non-fatal claims have to be stated separately. Another is that the Schedule sets up no rules for estimating liability, so that the making of sufficient reserves is left entirely to the Company.

Section A, sub-section (a), you will see is quite a simple statement of the number and amount of claims arising

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and settled during the year, but sub-section (b) is more difficult, being a statement of the number and estimated liability in respect of claims arising during and *outstanding* at the end of the year of account.

Parenthetically, I may remark that the word "outstanding," as applied to claims in the sense meant in these two Schedules, is hardly happy. I have always understood by an "outstanding" claim one which is complete, in so far as the occurrence of the event giving rise to the claim, the only points unsettled being the amount to be paid, the recipient, and the date of payment, or other details of a similar kind. The word is quite correct when applied to a Fire claim, but it seems to me it is not correct when applied to an E.L. claim, seeing that part of the contingency giving rise to a claim has not yet occurred. It is true the accident has occurred, but the continuance of the disablement is a thing entirely of the future, and the compensation for next year's disablement cannot be said to be "outstanding" at the end of this year. It seems to me a better adjective would have been "current."

Now all the claims dealt with in the two sub-sections of Section A are so recent that the Claims Department of the Company will no doubt be in possession of fairly full information as to the condition of the injured workmen, and as to what dependants they have. The Company will, with the advice of its Medical Officer, be able therefore to estimate, with some approach to exactness, what it must hold in hand to meet claims in respect of injuries which appear likely to end fatally, or which have already done so.

There will be more difficulty in estimating the liability under the Non-fatal claims. Still the great majority of cases will come under the head Temporary Disablement, and an estimate can readily enough be formed of how many weeks' compensation will have to be paid. Considerable difficulty will arise in cases which come under our fourth head of disablement caused by severe injury where there is no immediate probability of death occurring, but a prospect of ultimate recovery after a considerable lapse of time. In such cases the Company must, with the aid of its Medical Officer, estimate to the best of its ability what is to be the duration of the disablement,

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and reserve the weekly allowance accordingly. In most cases these claims, even, will not run long enough for interest to come into play, for, if they do, it would be safer to include them under our fifth head of Permanent claims.

If the claim should be for Permanent Incapacity, either total or partial, then it will be necessary either to pay to the injured workman for the rest of his life the weekly sum due, or to redeem the payments according to the Workmen's Compensation Act, 1906, or by mutual agreement, and the liability must be estimated accordingly. In the Workmen's Compensation Act, 1906, you will remember that the cost of an immediate Life Annuity from the National Debt Commissioners through the Post Office Savings Bank of 75 per cent. of the weekly sum payable is set up as the measure of the liability for permanent disablement, should the employer wish to redeem the weekly payments after they have been running six months, and you will probably have noticed also that under the Order in Council the same measure is set up in certain circumstances. It will be a matter for consideration in each case as to whether this measure of liability is a fair one, but we shall discuss this question at length later on, when we come to Section G, which deals with Permanent claims.

It will probably be easier to follow the working of Sections B to F of the Sixth Schedule by taking concrete years. Let us suppose we are making up the accounts and statements for the year ending 31st December 1915. Under Section A, sub-section (a), we would state the number and amount of claims arising and paid during 1915, and under sub-section (b) the number of claims which have arisen during that year and are still outstanding at its end, and the estimated liability thereunder. Please note that everything paid in 1915 in respect of these outstanding claims goes into sub-section (a), while sub-section (b) states what we estimate we must have in hand at 31st December to meet the payments in future years.

Then under Section B we would give particulars of the claims which arose during 1914, but which had

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continued into 1915. These particulars would be given in respect of Fatal and Non-fatal claims as before, and the Non-fatal claims would be split up into those which terminated in 1915 and those which were still running at the end of that year. The first columns of this Section would show the number of these 1914 claims outstanding, and the estimated liability for them as at 31st December 1914. These figures will be taken from Section A, sub-section (b), in the 1914 statement. Then in the following columns we would state the number and amount of claims paid during 1915 in respect of the 1914 claims, and also the number of them still outstanding at the end of 1915, and the estimated liability thereunder. Finally, there are columns for adding together the amount paid during 1915 and the liability at the end of that year, thus affording a comparison between the reserve made for this particular set of claims at the end of 1914 and what they actually cost in 1915 plus the necessary reserve for them at the end of 1915.

Section C will deal with claims which arose in 1913 and continued into 1915. The first columns show number of claims and estimated liability as at 31st December 1913, these figures having already appeared in Section A, sub-section (b) in the 1913 statement. The succeeding columns show the total payments made in the two years since 31st December 1913 and the estimated liability at end of 1915, and the last columns as before afford the comparison of the actual cost of these claims during the two years plus the present reserve with the Company's estimate at the end of 1913. This may seem a little complicated, but it really is not so bad in practice, and you will notice how the various statements fit into each other in successive years. In the same way Sections D, E, F would deal with claims which arose in 1912, 1911, and 1910, and which were still outstanding in 1915.

The claims dealt with under Section F will all have been running five years or more by the end of 1915, and so will merge in the facts recorded in Section G. Accordingly, although a statement of them appears separately in Section F, they are in the Valuation Balance Sheet included under Section G which I shall describe shortly.

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You will remember I said that the statements in Sections A to F afford in the course of time a means of checking whether a Company makes sufficient reserves for its claims at the end of the year in which they arose. Thus suppose a Company had at 31st December 1910 reserved £10,000 in respect of the claims arising in and still outstanding at the end of that year, and that during the next five years it had paid £8000 in respect of these particular claims, and suppose further it had at 31st December 1915 to estimate the outstanding liability in respect of them at £4000. Adding these together we get £12,000, and it might perhaps at first sight appear that the original estimate was £2000 short. This, however, leaves out of account the interest in the meantime earned on the balance of reserve held, which in the present example might nearly meet the deficiency.

Perhaps it may be as well to say what are the requirements of the Sixth Schedule for this year 1908 in the case of a Company closing its books at 31st December. Section A with its two sub-sections will furnish a statement of claims arising and settled during 1908, and a statement of the claims arising during the year and outstanding at the end of it. Section B will contain a statement relative to claims commencing in 1907, and the first columns will show the estimated liability at the end of 1907. In the other columns will be stated the amount of claims paid during 1908 in respect of these 1907 claims, the estimated liability at the end of 1908, and the summation of the claims and liability. In Sections C to F claims which arose in 1906, etc., and were still running in 1908, if there should be any, will be dealt with, but the columns headed 2 and 3 will be left blank. The columns headed (4) will show the number of claims and estimated liability as at 31st December 1908, and for the purposes of these Sections these claims will in future claims be dealt with as if they had commenced in 1908.

The first statement of estimated liability, except under Section B dealing with 1907 claims, will thus be made as at 31st December 1908, and in Sections C to F no information will be given as to payments or estimates previous to those contained in the 1908 accounts.

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In the 1909 accounts full statements will be expected under Sections A, B, and C, but under the other Sections the estimates in the first columns will be those as at 31st December 1908, and the claims paid only the payments made since that date, even though the claims arose in previous years. These partial statements will go on until 1913, but after that all the Sections will contain complete information as to the original estimate for each year's outstanding claims, the actual payments made since then, and the liability which still remains.

You will notice that a difference is made between claims arising before 1907 and those arising in that year. Probably the reason is that the Workmen's Compensation Act came into force in 1907, and that claims from previous years are assumed to be of much smaller importance.

You will accordingly see that in these Sections all claims are kept under observation until they gradually are worked out, or until the end of five years. It is apparently assumed that at the end of five years after the first estimate was made, all claims have become permanent, *i.e.*, that there is little or no chance of recovery or of reduction in the weekly amount payable, while it may be assumed also that there is no immediate prospect of the injured workman dying from his injuries. Accordingly, these claims, after five years, have practically become annuities payable to the disabled employees, with a possibility in certain cases of an increase if a partial disablement should become more severe, or if an employee was under 21 at the time when the injury occurred.

We now come back to Section G, which deals with the estimates of the liability under these Permanent or Annuity claims, and I may say incidentally, this section is the only part of the returns which has to be made and signed by an Actuary as such, although it seems to me that the statements in the other Sections involve actuarial work also. Curiously enough there is no definition of "Actuary," and the Board of Trade might have been well advised to have defined Actuary as a Fellow of either the Faculty or the Institute of Actuaries. Still, on the whole, there is not much risk of any Insurance Company employing as its Actuary men of the type who at one time used to be

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employed for certain Friendly Society and similar work, and whose qualifications for and rights to the title of Actuary were extremely problematical.

Section G consists, to a large extent, of statements of the ages of the workmen at the date the account is made up, number of claims, amount of weekly payments, amount of annual payment (presumably 52 times the weekly payments or thereby), estimated liability on the Parliamentary basis of the cost of a Post Office Annuity of 75 per cent. of the weekly payment, and the estimated liability as fixed by the Actuary if calculated otherwise than on the above basis. It will be noticed that the workmen are to be classed according to their ages, so that the weekly and annual payments corresponding to each age are shown, and the estimated liability has also to be shown for each age. With these particulars an outsider can form some idea of the sufficiency of the reserves made, but it must be remembered that the information given is only partial. It is impossible to give any return of the special knowledge which each office will have as to the nature of the injury and its effect upon the workmen's prospects of longevity. In some cases the injury received, especially in cases of partial disablement, may have no great effect upon the length of the life of the workman, except, perhaps, in so far as he may have to live with somewhat less comfort than he might have done if he had been able to earn full wages. In other cases again, the injuries may be such that it is practically impossible for him to live more than a few years. Evidently, therefore, the Actuary and Medical Officer, in view of the information which they have, must be free to allot to the life of each injured workman a value which in most cases will be less than the value of a perfectly healthy life of the same age.

Now, the Parliamentary estimate is based on a very healthy class of lives, as annuitants are proverbially long-lived, while workmen, generally speaking, belong to a class with smaller prospects of long life, even if they were not disabled. Besides this the very fact that they are to some extent permanently injured means that their lives will be on the whole inferior to the average of their own

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class. An allowance for the above facts has been made in the Parliamentary estimate in knocking off 25 per cent. of the amount of the Annuity, but each Actuary must make up his own mind whether that measure of the probable life-time of the workman is a fair one, and, if not, what measure he should use instead. If the Actuary does use some other measure he has to give pretty full particulars of how he makes up his figures. He must state whether they are made up on the basis that each claim is really an immediate Life Annuity. If so, he must state the Table of Mortality and rate of Interest used, whether discrimination is made according to the sex of the workmen whether the full Annuity Values according to Table of Mortality used are reserved, and if not what proportion, what modifications, if any, are made in the ages of the workmen in arriving at the estimated liability, and finally he has to state the amount of estimated liability for each year of age.

As we pointed out above, there are many cases where it would not be feasible to take the cost of a Life Annuity by any known Mortality Table as the measure of reserve for the claims, and in respect of such cases a further statement is asked for giving particulars as to the precise method adopted in deducing the liability, and, of course, the total amount of the estimated liability for such cases has to be given in the returns.

There is very considerable difficulty in the search for a suitable Mortality Table by which the outstanding liability for E.L. contracts can be calculated. I do not know of any table suitable even to a limited extent, and those of my actuarial friends whom I have asked can give me no assistance in the matter. If the workmen had not been injured the tables known as the English Life Tables might have been just as suitable as could be found, being made up from the mortality experience of the general population, in which, of course, the industrial classes preponderate. Other tables which give very similar results are the Friendly Societies' Table drawn up by Mr Sutton in his report on Friendly Societies' Sickness and Mortality experience, published in 1896, and a set of very interesting tables drawn up by Mr Watson from the experience of the Manchester Unity of Oddfellows, but none of these are

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what we need, as the lives dealt with therein are average lives and not damaged lives such as we have to deal with.

Another drawback to a general population Table is the uncertainty that ages are correctly stated. There appeared in *The Scotsman* recently a letter from a country Registrar giving it as his experience that the ages at death of the industrial classes are very largely understated. His reason for this was the almost universal practice of industrial Insurance, and he says that in the case of elderly lives more especially the ages are very frequently understated when the policies are taken out, and that when death occurs the true age is not given to the Registrar, but an age to correspond with the figure stated to the Insurance Company. This Registrar states that it is a very common thing for the relatives to come back asking that the age in the death certificate be altered showing the age to be younger. Dr Dunlop of the Scottish Register Office corroborated this statement in some remarks he made at a meeting of the Institute of Actuaries recently, when census returns were being discussed. There is apparently no doubt that the above is true to a certain extent whether from intention or from ignorance, and the value of such Tables is, therefore, diminished when we deal with real ages. This is an objection of some weight, as we may take it that Insurance Companies will take care they are not reserving for too young ages.

The following table shows the comparative cost of an annuity of £52 a year (=£1 a week) at various ages for male lives according to (1) the English Life Table No. 3. (2) the British Offices Annuitants Table, and (3) the Post Office Table of Prices. In the first two columns the rate of interest assumed is 3 per cent., and the annuities are what Actuaries call continuous annuities, these being a convenient approximation to weekly payments. The Post Office figures, of course, are taken from the official leaflets, and its annuities are payable half-yearly.

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Age	(1)	(2)	(3)
20	£1121	£1189	£1185
30	1015	1080	1064
40	882	941	930
50	724	775	780
60	547	592	597
70	369	413	414

You will see the British Offices Table and the Post Office give very similar results, while the English Life Table figures are considerably less.

There are numerous Tables of Mortality which differ from what we may call Standard Tables owing to climatic or occupation risks, but none of these seem to me suitable for the purpose of valuing these annuities. I looked at the Table of Annuity Values drawn up by Mr G. M. Low in his paper to the Actuarial Society of Edinburgh on the Mortality among Liquor Sellers, these, as you are aware, being considered about the worst class of insured lives. His figures bring out a very heavy mortality up to middle life, and a comparatively lighter rate after that age, the reason for this being fairly apparent. It seems to me, however, that this light mortality at the older ages makes this Table unsuitable for the present purpose, and I have, therefore, left it out of account.

Various hypothetical Tables of Mortality have been drawn up from time to time, and I now give a statement of the cost of the same annuity of £52 a year, assuming (1) an extra mortality of one person per 100 each year over the normal, and (2) an extra mortality of 80 per cent. over the normal, and (3) of the cost of an annuity of £39 a year (=15s. a week), this latter being the Parliamentary measure of liability for a weekly payment of £1.*

Age	(1)	(2)	(3)
20	£999	£1021	£889
30	923	908	798
40	818	765	698
50	682	597	585
60	524	420	448
70	360	262	311

* NOTE.—*Annexed to the paper is a Table of the cost of an Annuity of £39 a year bought through the Post Office Savings Bank.* *See page 128.*

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The figures in the first two columns are calculated from hypothetical Tables given in a paper read by Mr Lutt before the Institute of Actuaries in April last, the normal Table being the $O^M(5)$ which may be taken to represent the mortality among insured lives after the first effects of medical and other selection have worn off.

You will see that the Parliamentary measure is the lowest, except at the older ages, but of course no one can say whether the mortality in either of the hypothetical Tables is anything like the true mortality among injured workmen.

At present it is difficult to express any decided opinion as to what table of mortality or methods should be used for E.L. Valuations. The whole subject requires a great deal of scientific inquiry, and above all, experience in actual working. I have not been able to give the time I should have liked to the subject, as it opens out so many new lines of inquiry, and the practical considerations are so numerous. I may say that several points relating to E.L. Insurance are on the billet for discussion at the International Congress of Actuaries in Vienna next year, including the rate of mortality among injured workmen.

No doubt, in the course of time, the Associated Accident Offices will take steps to combine the mortality and other experience of the permanently disabled workmen they have had on their books, and until such tables are drawn up, I am afraid we shall have to content ourselves with various makeshifts. And in any event the judgment of the Medical Officer of the Company, the head of the Claims Department, and the Actuary, must play a great part in the fixing of suitable reserves. I am inclined to think that the Parliamentary basis will be pretty freely adopted, and that Companies will be chary of falling below what the public are sure to think is the official standard of reserves. The liability can always, after a claim has been running for six months, be got rid of at the Parliamentary figure, and there seems no sufficient reason for retaining more in hand.

I have spoken hitherto as if the only liability to be kept in view in these E.L. Valuations was the weekly payments to injured workmen, but we must not forget the possibility

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of having within a year or two to pay a lump sum in the event of death from the injury. Such lump sum will be payable only if the death can be traced to the injury, but I fear that Insurance Companies will find that the injury will be held to be the cause of death in a great many cases, even although the connection be somewhat remote. It is evident that, in the event of death after weekly payments have been received for a number of years, there will be no lump sum to pay, because the workman will have already received as much as, if not more than, would have been paid if the accident had proved immediately fatal. There will be many cases, however, where death occurs before the workman has received in weekly payments the sum that would have been due to his dependants in the event of a Fatal claim, and the balance will, at his death, have to be paid over. Accordingly, it is not only an annuity to the injured workman that has to be provided for in the reserve, but also a lump sum to his dependants in the event of his early death. In the great majority of cases the reserve put against any specified claim on the footing of its being only an annuity would exceed the maximum amount payable in the event of a Fatal claim, but it may be well to remind even Insurance men that this reserve is not necessarily sufficient to cover a payment in the event of early death. If we make a reserve for the weekly payments in the form of a Life Annuity, the reserve value of that Life Annuity does not provide for any sum at the death of the annuitant, even although the reserve for the Annuity may far exceed the sum to be paid at death. The reason for this is that the excess payments to the annuitants who live long can only be made out of the surplus arising in the case of those who die soon, and therefore we must not spend this surplus in cash payments at death. Accordingly, besides reserving for weekly payments in the case of permanent injuries, it may be necessary in the case of recent claims to make a reserve for a gradually reducing sum, payable in the event of the death of the workman within the next few years. This is practically to provide a decreasing Life Insurance for a temporary period, and here again we are faced with the difficulty of having no Mortality Table suitable for valuation purposes.

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These remarks will not apply so much to Companies which make a practice of always paying down lump sums to close claims, but, I think, most Companies will prefer to keep their reserves in hand, and hope to reap some profit from extra mortality among the annuitants. It may be that the profit from this source will more than cover the risk of the death payments, but for the present at least this can hardly be taken for granted.

I have only touched upon this point at the present time so that it may be kept in view, but you will readily understand that it affords a very interesting subject for further inquiry, and that the reserves for it may be a matter of some importance. I am sorry that I have not had the time or opportunity of giving such attention as it really requires.

I have now described how the estimated liability under the various Sections of the Sixth Schedule should be fixed, and adding the estimates for the various Sections together, we get the total estimated liability for outstanding claims as at the end of the year of account, and this is the item which you will remember appears in the First and Third Schedules.

All the amounts to be given in the Accounts and Statements are to be less Re-insurances, and although I have spoken of accidents only, you will remember that the term is meant to include such diseases of occupation as come under the Act.

There are certain rules laid down in the Order in Council for the valuing of the liability of a Company to its policyholders upon its being wound up, whether voluntarily or otherwise. If there is a claim for permanent disablement under a policy, the first rule fixes the value of the weekly payment according to the Parliamentary basis which we have so often mentioned before. In other cases the value is fixed as such proportion of the above value, as may under the circumstances of the case be proper. Seeing that a very considerable portion of the liability will arise in these other cases the instructions cannot be said to be very full, and the liquidator has a very considerable discretion allowed to him. He will probably discover what most Insurance

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Companies know, viz., that the views of claimants as to what is proper compensation differ considerably from those of the person or persons who have to pay. Also it seems decidedly unusual, to say the least of it, to measure liability for a Temporary Disablement by calculating what proportion of an immediate Whole Life Annuity is applicable to this Temporary Disablement. It would have been much better if the rule had simply stated that in such other cases the value shall be such amount as under the circumstances may be proper.

The other rule given is for valuing the unexpired risk under a current policy whether or not there is a claim subsisting under it, and the value fixed is the proportion of the premium applicable to the unexpired period. When dealing with this subject in reference to the office accounts I showed that this proportion should be materially reduced considering that the Office had already defrayed a very considerable amount of the expenses of the year's working of the policy. Of course, when winding up a Company, importance attaches to the relative amounts of claims, and if the various policies are valued in the same way no injustice is done, and the only consideration remaining is how will the policyholders stand as compared with the other creditors. Still, if these policyholders had to go to another Company to get their risks covered they would have to pay this full proportion of premium and, therefore, it seems not unfair to make that proportion of the premium the measure of the liability of the Company which is being wound up.

Valuations of Employers' Liability policies may also be required in connection with the transfer of one Company to another. In such cases each Company will, no doubt, employ its own Actuary who will value the liability much on the same lines as would be done for the Annual Returns. In this connection it will be noticed that if policyholders representing one tenth of the value of the liabilities of the Company to be transferred or of either of the amalgamating Companies should dissent the Court cannot sanction such transfer or amalgamation.

I should have liked to have been able to say something as to methods of tabulating the facts so as to bring out at

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the end of the year the figures necessary for the various returns. Besides their own returns to the Board of Trade, the Offices have undertaken to make returns for the employers insured with them also, and the Accident Offices' Committee, I understand, are just now drawing up the forms in which they want the experience of the several Offices furnished to them. Until the requirements of the latter are known it would be a pity to suggest forms of cards or sheets which might suit the other purposes only, although no doubt just now every Office is keeping its records in as complete and accessible a form as it can.

I am aware I have merely touched the fringe of a subject of great importance, but I am sure that very soon other papers will be submitted to this or kindred Societies which will throw some real light on its many difficult points. I very much appreciate the honour the Society has conferred on me in asking me to write what is, so far as I am aware, the first paper on Valuations under the Employers' Liability Insurance Companies Act, 1907.

24*th March* 1908.

[TABLE.

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TABLE showing cost of Annuity of £39 a year (=75 per cent. of a weekly payment of £1), bought through the Post Office Savings Bank.

Age at time of Purchase.	Males. Cost of Annuity.	Females. Cost of Annuity.
If 15 and under 16	£931 15 6	£1007 3 6
,, 16 ,, 17	923 6 6	999 10 9
,, 17 ,, 18	914 14 3	991 18 0
,, 18 ,, 19	906 5 3	984 2 0
,, 19 ,, 20	897 13 0	976 6 0
,, 20 ,, 21	888 17 6	968 3 6
,, 21 ,, 22	880 2 0	960 1 0
,, 22 ,, 23	871 3 3	951 15 3
,, 23 ,, 24	862 7 9	943 9 6
,, 24 ,, 25	853 5 9	934 17 3
,, 25 ,, 26	844 3 9	926 5 0
,, 26 ,, 27	835 1 9	917 9 6
,, 27 ,, 28	825 16 6	908 10 9
,, 28 ,, 29	816 11 3	899 8 9
,, 29 ,, 30	807 2 9	890 3 6
,, 30 ,, 31	797 14 3	880 15 0
,, 31 ,, 32	788 2 6	871 3 3
,, 32 ,, 33	778 7 6	861 8 3
,, 33 ,, 34	768 12 6	851 6 9
,, 34 ,, 35	758 17 6	841 5 3
,, 35 ,, 36	748 19 3	831 0 6
,, 36 ,, 37	738 17 9	820 9 3
,, 37 ,, 38	728 16 3	809 14 9
,, 38 ,, 39	718 11 6	798 13 9
,, 39 ,, 40	708 3 6	787 12 9
,, 40 ,, 41	697 15 6	776 2 0
,, 41 ,, 42	687 1 0	764 11 3
,, 42 ,, 43	676 6 6	752 10 9
,, 43 ,, 44	665 12 0	740 7 0
,, 44 ,, 45	654 11 0	727 16 9
,, 45 ,, 46	643 6 9	715 3 3
,, 46 ,, 47	632 2 6	702 0 0
,, 47 ,, 48	620 11 9	688 13 6
,, 48 ,, 49	608 17 9	674 17 3
,, 49 ,, 50	596 17 3	660 17 9
,, 50 ,, 51	584 16 9	646 18 3
,, 51 ,, 52	572 6 6	632 18 9
,, 52 ,, 53	559 16 3	618 16 0
,, 53 ,, 54	546 16 3	604 6 9
,, 54 ,, 55	533 13 0	589 11 0
,, 55 ,, 56	520 3 3	574 15 3
,, 56 ,, 57	506 7 0	559 9 9
,, 57 ,, 58	492 4 3	544 1 0
,, 58 ,, 59	477 11 9	528 12 3
,, 59 ,, 60	462 16 0	513 0 3
,, 60 ,, 61	447 17 0	497 8 3
,, 61 ,, 62	433 4 6	481 13 0
,, 62 ,, 63	419 1 9	466 1 0
,, 63 ,, 64	404 19 0	450 9 0
,, 64 ,, 65	390 19 6	434 13 9
,, 65 ,, 66	377 0 8	418 8 9
,, 66 ,, 67	363 7 0	402 7 0
,, 67 ,, 68	350 3 9	386 5 3
,, 68 ,, 69	337 0 6	370 3 6
,, 69 ,, 70	324 0 6	354 11 6
,, 70 ,, 71	310 17 3	339 12 6

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VIII.

PAST AND PRESENT:

VALEDICTORY ADDRESS,

SESSION 1907-1908,

BY

HENRY BROWN,

Manager of the Century Insurance Company, Limited.

THE title of my address to-night is not of my own choosing, and you may think, before I have done, that it is not very appropriate, or at any rate that promise and performance are not quite in agreement. Our worthy Secretary, in one of his Carlylean moods, suggested the title, and I, in a weak moment, adopted it, not thinking of the unfavourable comparison that might follow between myself and that great master of English prose—the Sage of Chelsea.

When you did me the honour to elect me to the Presidential Chair of your Society, you may remember I ventured some observations upon Insurance Education and the possibilities before the Insurance man once he had received his training, and what I should like to do this evening is to supplement in some measure what I said on that occasion, but of course looking at the question from a different standpoint.

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The Past is a long period to think about and much too long to permit of our discussing in a single paper or on a single evening, and therefore I shall limit what must necessarily be a superficial review to the last twenty-five years or so.

On the occasion to which I refer I ventured to predict that the future of our profession held in its lap as many prizes worth the winning as had ever been won already, and I cannot but think that a glance over recent Insurance history and development will at least show that to the man who is determined to seize and use all his chances "the world and all the charm it holds for him" has not gone by.

Agency and Branch Organisation.

In arranging my observations under certain specified heads I have not necessarily attempted to place these in order of merit, and yet if any one question should come first it would be that of employment and its outcome, for this is the question of all questions that interests us all, first and last and always.

I doubt if many of us have seriously realised that evolution is playing its part to-day, as much in the Insurance as in the natural world, and yet it does not require very keen insight to discover that this is actually the case. Offices have continually changed, and are continually changing their attitude to their work and to their organisation. Twenty-five years ago Branches were established with slow deliberation. More was expected of, and more was received from the agent than is the case to-day. Then he not only introduced the business but he also carried it through, with comparatively little assistance, the larger Fire risks forming the chief exception.

To-day the tendency is more and more on the part of the public to eliminate this middleman, and to put into their own pockets the portion of the premiums that used to go into his. To make the transaction look quite regular and business-like, application is made for an agency, often unblushingly, in the intended insurer's own name, but frequently in the name of a cashier, secretary, or other pure nominee.

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Many different causes have contributed to this result. Offices themselves have done much to bring it about by their premium hunger. Every man who can influence a few pounds in premiums is pressed into the agency list. Sharp watch is kept for solicitors and chartered accountants passing their final examinations, and long before they are in a position to commence business on their own account or to commence insurance business to any extent worth naming, they are besieged by active, eager, and persuasive representatives of competing Insurance Companies to commit themselves to accept an agency for one or another. Newspapers are scanned for paragraphs announcing the appointment of new Bank Agents and others to positions in which they can exercise certain influence, and the advantages of an Insurance Agency are at once urged upon the appointee, either by tactful call, or a cleverly written letter, and not infrequently by both, and so the pace of competition continues to be accelerated.

Agents are, as a rule, well paid for all that they are called upon to do. An Insurance Agency requires no stock-in-trade, and except in the case of the Broker it has now reached the stage when it requires really no effort, the whole work being done by the Company's Inspectors whose time is paid for independently of what the agent receives.

If I cared to digress here, I might recall many strange and indeed amusing instances of claims for commission by agents who had done less than nothing to earn it, but that would be outside the scope of my purpose to-night.

In the struggle for agency extension it has been found that the Office which has a representative resident on the spot or near it where business is, possesses distinct advantages over competitors whose establishment is many miles away, and so every large town first became—and now every small town that seems to present itself as vantage ground, is fast becoming an Insurance centre.

Of course there is still another reason for this state of things. New openings have had to be found for the officials of Companies bought up, the purchasing Company being already sufficiently represented at the same centre, and thus new Branches have had to be opened to supply

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posts for the purchased Company's officials. Obviously other offices having no permanent establishment in the centres at which these new Branches are opened either begin to lose ground or are in danger of doing so. To obviate this a Branch is established and a permanent official, with his staff, is installed, and so the net-work of Branch organisation continues to be ever more widely spread out.

The Insurance Broker.

Even the Insurance Broker, who rebels so strenuously at the multitude of agents who exist under present-day conditions, is not without some responsibility for that which he objects to. I will not stay here to discuss his relation to Non-Tariff Offices further than to say that the "own case" agent is at any rate in part the product of the support given to Non-Tariff Companies by the Broker, coupled with his readiness to divide, with the Assured, the liberal commission he has been able to secure under the competitive conditions that exist between such Offices. It is also in part due to the preference given by the Broker to large Offices over the smaller ones. A young Office must be specially careful in its selection. When the income is comparatively small, the effect of bad selection is obviously much more easily felt and may become much more serious than in the case of a large Office with a large Premium Income, which of necessity includes a very substantial proportion of first-class business.

The Broker finds the older Office willing to stretch a point in his favour for the sake of the account generally, while the younger Office is not in a position to do so. Nothing is therefore more natural than that the Broker should take to the Office which obliges him in regard to a risk of doubtful quality, the bulk of his business in respect of which there can be no doubt. But on the other hand, nothing is more obvious than that the younger Office must seek by other means to secure the support it is unable to obtain from those who control large accounts, and hence its insistency upon the continual extension of its agency connections.

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If many of such agents do, as they often will, prove "own case" agents, this certainly cannot be the desire of the Office that has appointed them, so much as the outcome of a system which has grown up under natural causes.

The Value of an Accident Tariff.

And then there is the factor of the wide extensions of the law of Employers' Liability for accidents to workmen, which beginning with the Act of 1880 and continued by the Acts of 1897 and 1906, has added enormously to the Insurance problems to be dealt with as well as to the Insurance premiums to be gathered in, and therefore to organisation enlargement.

How the solution of these problems will affect the profit-earning capacity of the various Offices engaged in the business, it is as yet too early to hazard a decided opinion. One may say, however, that the Tariffs, which so many uninformed employers will persist in thinking are instruments of tyranny, can hardly fail to furnish the ground-work of the security, and therefore of the highest interest of employers.

Without Tariffs there could be no genuine co-operation among Offices, and without co-operation there could be no ascertainment of exact data upon which to base premiums, nor any bar to that wild scramble for business through which the weakest must be driven to the wall, leaving, in the process, the insured to bear the liability he thought he had paid a responsible Company to carry.

Incidentally too, the absence of Tariffs would deprive many Offices—whose names fill a fairly long catalogue just now—of their stock cry of "rating all risks on their merits," which simply means charging so much less than the Tariff premium as will secure the business for themselves. And, if I may add another thought parenthetically in passing, how unmeaning is this cry judged from the true Insurance standpoint. It is simply a denial of the "Law of Average," which is and must remain the very foundation of our science.

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Work and Bread.

Now, if any of you are wondering what bearing all this has on my suggestion that the future offers both work and bread—using this latter term in its widest sense—let me link up my argument. At our last Meeting we listened to an extremely interesting and valuable paper dealing with Valuations under the most recent Workmen's Compensation Act, but we may not have realised fully that this Act has come as a call for more Actuaries. The Faculty in Edinburgh and the Institute in London will doubtless have time to train many of these before the call becomes clamant. But they will be needed, for Offices exploiting this territory will require, and indeed must have on their staffs, more assistants, who can deal, as only the Actuary can, with the intricate calculations the new state of things demands.

Then coming back to Branch establishments, consider for a moment the type of officer required to-day compared with, say, twenty-five years ago. I have already shown how the number of openings has increased—and the increase in the future will be greater rather than less.

A quarter of a century ago the Chief Officer of a Branch was hardly expected to have much acquaintance with more than one Department of Insurance. To-day he must at least possess a smattering of all-round knowledge, and the great probability is that in years to come he will only win the coveted post if he can draw a plan, apply a Tariff, discuss intelligently expense ratios and bonuses, and form an intelligent opinion on Employers' Liability questions. The tendency will steadily grow on the part of Offices to engage the whole time of those who will go direct to the public with the protection they have to offer. The Industrial Offices have shown conclusively what may be accomplished by a method such as this, and though the traditions and instincts of other Offices may stand in the way of their following these examples hastily, follow they will, of that I am persuaded. For consider how the possibilities of such a plan of organisation being successful have improved in recent years.

Every owner of property, almost every employer of some other person, every man and indeed every woman

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who is seeking or can be persuaded to accept Life Assurance, every father of a family wishing to provide definitely for his children's future; every partner in a business who can be made to realise the loss to himself which his partner's death may involve; every man of means who wishes to free his estate from a levy for death duties; every man who wants protection against thieves, burglars, or dishonest employees—all these and many more are being catered for now by nearly every Company, and thus the same population has in itself at least tenfold possibilities compared with former days. And a casual visit from an Inspector, resident 50 or 100 miles away, is no longer adequate to the need of the times; and so, if the right men can be found, more and still more will continue to find remunerative employment. Indeed the difficulty to-day is not to find the openings, but the really suitable men to fill them. Further, this army of out-door men will not be fattening upon transfers. It cannot but create and increase the demand it exists to supply, and thus the eternal law of progression is maintained.

Some Notable Changes.

It may be of more than passing interest to recall a few of the many phases which have marked the development of Insurance practice during the last quarter of a century. While knowledge of the scientific side of our profession has steadily grown, its commercial aspects have received increasing attention. Our giant institutions have, of course, continuously grown—or they would not have been giants—but how marvellous the changes have been. One can hardly recognise that these strenuous competitors for present-day business in all branches are the somewhat staid and eminently respectable concerns of twenty-five years ago.

It is not at first sight apparent how Fire and Life business came to be so closely associated as they are now found. The fundamental basis of the two Branches is so widely different. But no doubt the association arose out of the fact that both represented great and obvious public needs, and both presented large income possibilities.

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There seems to have been no valid reason for Marine and Accident Insurance being passed over, but so it was in the case of the majority. Some few of the Companies—or may we not say their Managers—were more far-seeing than the rest and added the insurance of ships and cargoes to their other operations with satisfactory results. Others treading the same road, found it rough and thorny. But little serious attention was given to Accident business. The "Atlas," I remember, had an Accident Department but hardly found it worth the trouble, and gave it up, little thinking that the possession of such a department would, in later years, come to be deemed an essential part of its equipment.

It was not until after the passing of the Workmen's Compensation Act in 1897 that the Accident field was seriously invaded by Fire and Life Offices. Indeed two or three important Offices that had hitherto transacted Life business alone entered along with the others, a vision of consequent reduction in expense ratios and correspondingly larger bonuses with which to seek public suffrage no doubt rising before their eyes. And the movement having begun under such auspices what has happened more recently became inevitable. The small Accident Company has ceased to exist as such, and indeed has nearly ceased to exist altogether.

The Employers Insurance Bill discussed at our last Meeting involving, as it does, a Government Deposit of £20,000, and, what is equally important, periodical valuations, may be said to have put an end to the formation of this type of Company. And what Parliament has left undone, the older Companies have finished. Once they did move from their old moorings, they began to "make things hum," as our American cousins would phrase it. They all became "universal insurance providers." Swallowing each other was adopted as a sort of common pastime, and one by one most of the smaller Accident Offices also disappeared into the capacious maw of some giant devour-all. But the voracious appetites are still unsatiated, and Plate Glass Insurance Companies are one after another now passing into the same roomy interiors.

But again the inevitable has happened. The avenues

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of promotion having apparently become choked, capable and ambitious men have discovered that new Offices were badly needed, and helped by the new sources of business, opened up in connection with recent legislation and by the temptations cast before investors by the prices paid for companies absorbed, they have succeeded in supplying these "long-felt wants" abundantly during the last twelve months. And so to-day, of competing Offices there is no lack.

The Growth of Insurance Business.

It is not my purpose to burden an address of this character with many statistics, but some figures which I will quote have a direct bearing upon what I have already advanced.

Let me take Fire business first of all, and submit a comparison between the figures of 1882 and 1906:—

	No. of Cos.	Premiums.	Losses.	Funds.
1882.	54.	£11,475,379.	£7,789,834.	£13,559,048.
1906.	55.	£23,840,329.	£21,195,256.	£29,185,964.

I am not here discussing, nor is it within my province to-night to discuss the question of Loss Ratios, but, having quoted the figures, I should point out what perhaps will be obvious to you already, namely, that the 1906 Losses include those involved by the great calamity at San Francisco. But if we take even a normal year when the Losses amount to between twelve and thirteen millions, we have here evidence of the great enlargement of the ground that has taken place for the exercise of the Loss clerk's skill, and incidentally of the growth of the various staffs necessary to cope with such large transactions.

The Fire Premiums, it will be seen, have more than doubled in the twenty-five years, and in spite of San Francisco this is also true of the Fire Funds.

If we turn to the Life Branch of our business its progressive aspect is equally remarkable. The extent to which it has grown even during the last twenty years is shown by the following figures:—

	No. of Policies.	Premiums.	Sum Assured.
1887.	905,068.	£13,033,945.	£421,061,768.
1906.	2,397,915.	£25,332,993.	£713,491,783.

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This is of course partly the product of increased education as to the value of Insurance; partly due to the increased wealth and a much wider distribution of it among the entire community, and partly to the organisation and activity of the various Offices competing for business, of which I have elsewhere spoken, and serves as a very forcible indication of the ever enlarging place in the economy of our daily existence that Life Insurance is filling. This growth has neither been stopped nor so far received any check, but its tendency is to continually enlarge itself, and the field for such enlargement is more than ample.

But when we come to the Accident Department, perhaps the change evidenced there is the most striking of all. I have not gone back beyond the last ten years, and the following is the table I have to submit to you:—

	Premiums less Reassurances.	Losses or Claims.	Funds excluding Shareholders' Capital.
1897.	£760,675.	£433,243.	£518,510.
1906.	£6,160,806.	£3,747,260.	£5,873,579.

One or two observations might suitably be made here regarding this remarkable growth. The Premium Income, which it will be observed has increased some eight and-a-half times in ten years, includes a very large proportion of premiums drawn from the foreign field, while this factor only accounted for a very small proportion ten years ago. Legislation has accounted for the remainder. Of course the Claims have kept pace with the Income, but the increase of Funds has nevertheless made more progress than the increase in Premiums, the amount at the end of 1906 being nearly eleven and-a-half times what they stood at ten years previously.

The Development of Fire Tariffs.

During the last quarter of a century the scientific side of Fire Insurance has received more and more attention, and the Offices themselves have not gained more by this development than have the insuring public.

To-day we are surrounded with Non-Tariff Offices as

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we have not been for almost a generation. I have elsewhere accounted for this state of matters in some degree, and therefore I will only remark here that the setting up of the various Tariffs has really made the existence of the Non-Tariff Offices possible.

It is an essential condition of a Tariff system that the Offices subscribing to it must lay down a very firm set of regulations for their own guidance. This is the Non-Tariff Companies' chance. If the Tariff rate is 5/-, the Non-Tariff rate becomes 4/6. It is well known that the Tariff rate has been based upon a wide and carefully tabulated experience, and that a certain margin of profit is provided for in it. This knowledge is turned to good account, and the rate is cut by such a percentage as will secure the transfer of the business. The Tariff Office, in spite of present-day competition, goes serenely on its way, although sometimes that way is the one of respectable disappearance, and it would be a bad day for the public, and worse still for many thousands of Shareholders, if Tariff conditions ceased to prevail.

In 1880, I am informed, there were 49 Tariffs for Home business in operation. At the present time there are 75. The numerous amalgamations which have taken place in recent years have slightly reduced the number of Members of the Committee. In 1880 the number was 49; at the present time it is 42, while there are now 28 Associates.

As showing the activity of the Tariff Organisation in these days, it may be mentioned that in 1880 36 Meetings were held, including Meetings of Sub-Committees. In 1907 the total number of Meetings was 113, but over and above this latter number there were numerous Meetings of the London Wharf and Warehouse Committee, of Sub-Committees appointed by that body, and of Local and Sub-Committees at the principal Insurance Centres.

During the last twenty-five years some events have occurred in connection with the Tariff Association which deserve special mention. For example, Automatic Sprinkler and Fire Alarm installations have come to be recognised by the Committee, and before it is seriously attempted to put any system of Automatic Sprinkler or Fire Alarm on

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the market manufacturers deem it wise to submit it to the Fire Offices Committee and get the imprimatur of that body, who, before this is granted, themselves submit to very searching tests at the hands of experts the systems they are called to adjudicate upon.

In 1892 General Rules were issued for the insurance of certain public property, which are commonly known as the "Tenders Rules," and in 1897 Rules were also issued for the regulation of Fire Insurance business generally. These Rules were adopted in connection with a general revision of the Tariffs with a view to their simplification. Other Rules that have been adopted have had reference to Standard Fire Resisting Construction, Artificial Lighting, Electric Motors and Dynamos, the application of Wired Glass and Electro-Copper Glazing for the protection of exposed Openings, and External Drenchers.

Possibly in the near future uniform policy conditions will be decided upon to the advantage of all the members alike, but it must be said of the Fire Offices Committee that they make haste slowly.

I am informed by the Chairman of the Committee that 1858 is apparently the date of the formation of the Association of Tariff Offices, but the actual name—Fire Offices Committee—does not appear to have been adopted until ten years later, when the first Rules were framed. The first Fire Tariff was one for Woollen Mills, dated 1st June 1843, though I understand there is in existence a sheet of rates for Liverpool dated 1828, but this is said to be a document of such beautiful simplicity that it is doubtful if it ought to be dignified with the name of a Tariff.

I cannot pursue further these topics which have for me, at any rate, so fascinating an interest, but I hope the brief and necessarily imperfect sketch of recent history which I have submitted to you to-night has been as interesting to you to follow as it has been for me to prepare.

14*th April* 1908.

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